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TWENTIETH-CENTURY HOUSES

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CENTURY
HOUSES**

**BY
RAYMOND
McGRATH**

B.ARCH., A.R.I.B.A.

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to
MANSFIELD DUVAL FORBES

“Simple-intime”

In the making of this book I have been greatly in debt to John Earley for his help in all questions of the German language; to Gordon Cullen, W. L. Havard and John Lawrence of my office for their attention to the special house-plans; for very good reasons to be seen later to Miss Leonora Lockhart and C. K. Ogden of the Orthological Institute; to Richard de la Mare for his ready interest from the start; and lastly and most of all to A. C. Frost without whose frequent help and suggestions this book would not have been possible.

FIRST WORDS

The position of the architect is very different from that of any other man of art. A book or a bit of music may be on everyone's lips to-day, and to-morrow be on the shelf, covered with dust. If they are good there is a living force in them which will make them a part of everything which is best in us and in men and women still to come. If they are bad, or designed only for the hour's amusement, they do not, after all, take up much room and may even, with their coloured backs ranged across the wall, give a certain amount of pleasure to the eye. Their material existence is at least short, and the physical damage they may do unimportant. Unhappily this is not so when we come to the equally short-living offspring of the architect. There is no top shelf or dark cupboard for poorly designed buildings. Far from it. They are kept on as a sort of headstone to their early death. Time is no acid-test of building and quality no passport to long existence. A house which is the equal of a third-rate book may have an unpleasing effect on one square mile of country for a hundred years, a house as beautiful as a song of Schubert's be overlooked in the noise of a hundred street-cries or rooted up by a builder to make way for "housing developments".

To a greater or less degree the outside of a house is public property and the most private of architects a public servant. For this reason the architect is in a more responsible position than any other man of art, and when he is so little ready to take his position seriously as he has been for the last hundred years the material effect is far worse than if he had been a writer or a painter. This country of ours is quickly becoming one great waste of badly formed, poorly designed and unhealthy houses simply because the architect has no force of mind, no feeling for his position, no

self-respect, no belief in his great purpose and no powers of public control. At the thought of what our towns and country might be and what they in fact are, there is no serious architect who will not have a feeling of shame at this exchange of his birthright for so much brick and dust.

And so it is that the examples of new building in this book have a more serious purpose than to give interest to the eye. They are an education in a new way of thought and a wise way of living. They make it quite clear that the minds of most of us have been out of condition for some time, and that we have been happy with a poor second best and even unconscious that there was anything better. There is no doubt that a certain amount of such unrest as comes from getting the air clear in this way will do us more good than all the comforting of those false experts at keeping things as they are, who are not so pleased as they might be to see any change for the better.

The first step in learning is unlearning. This is quite a simple process when the need for it is seen. Unhappily most architects do not see the need for it and go on putting new wine into old bottles and getting themselves mixed up generally so that it is not surprising if the outcome seems somewhat strange when viewed in the cold light of reason. This old English way of ours of jumping in two directions at the same time and hoping for the best takes a long time to get us anywhere. It is no use being of two opinions on this point, because it has been common knowledge for years now that it is wise to be off with the old love before taking on the new. And when the old love is so very old and Tudor there seems every reason for letting her go, or at least being a little more elastic in our ideas.

When we have got our minds clear of fiction and the disease of doing things by halves the rest will be straightforward. For the first thirty-three years of this present hundred we have had our hands full with destruction on the one side and with keeping things as they are on the other. These tendencies to destruction and keeping things as they are come from a condition of mind still unequal

to the present degree of material development. But it is becoming increasingly clear that there is no longer any need to put up with this sort of thing when industry and science are day and night making a better way of living more and more possible. In the almost unlimited power of the machine Man has a servant well able to do three parts of his work and to make him freer than he has ever been before. And when—it may not be long now—the strange behaviour of money and credit is at last got under control and put to its right use the time will have come when a new England will be ours for the making. These are the conditions which it is now the architect's business to take into account.

The houses pictured in this book are a selection representative of the small number of good new houses in twenty different countries. The selection is based on quality not advertisement, form not detail. If houses like these were as common as they are international there would be little need for this book. It is to be hoped that it will not be long before there are enough of them all over the earth to make this a guide-book to the earliest examples more than a selection representative of all there are.

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









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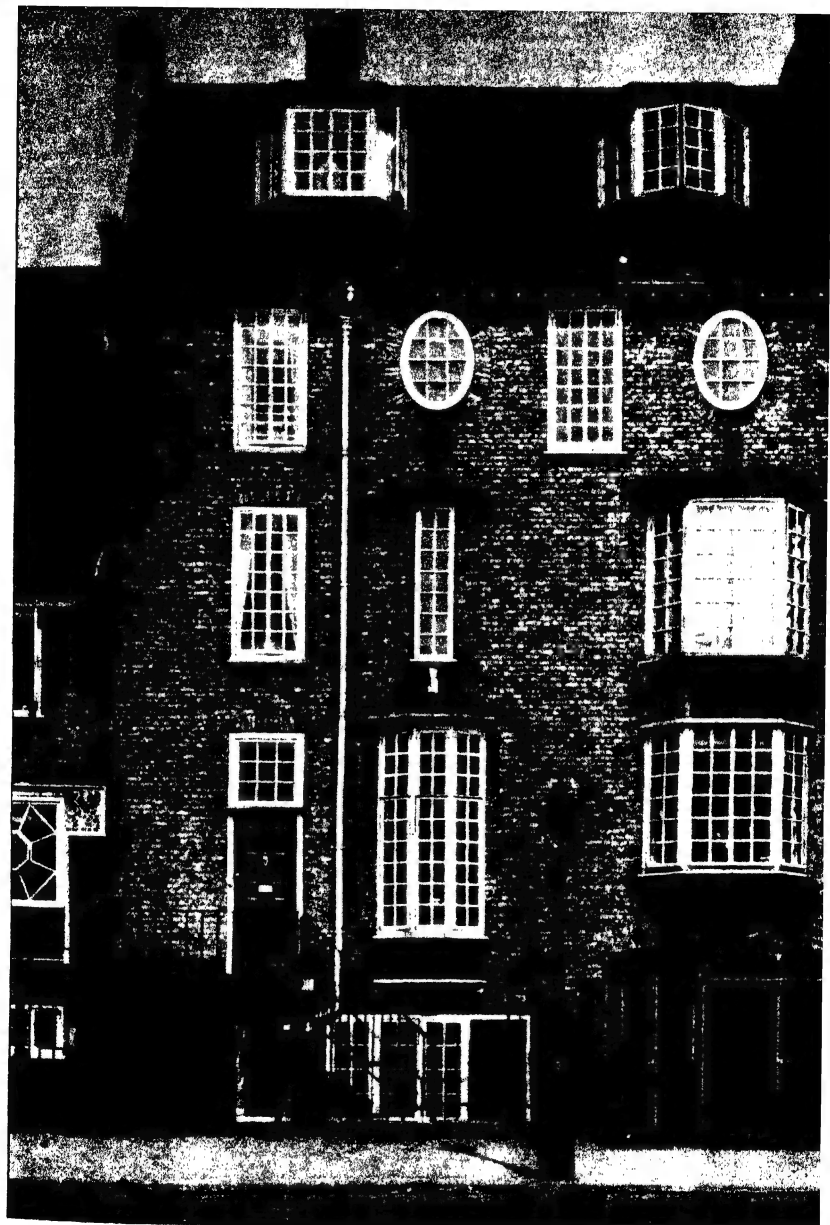
THE KEY TO THE PLANS

	FRONT DOOR		WORKROOM
	TRADESMEN'S DOOR		WRITING-ROOM
	STEPS		LIBRARY
	LIFT		PLAYROOM
	COAT-ROOM		PHYSICAL TRAINING ROOM
	W.C.		BEDROOM
	BATHROOM		SERVANTS' BEDROOM
	DRESSING-ROOM		TERRACE-GARDEN
	COOKING-ROOM		AUTOMOBILE-HOUSE
	FOOD-STORE		AIRPLANE-HOUSE
	WINE-STORE		SWIMMING-BATH
	STORE-ROOM		WATER-GARDEN
	BOILER-ROOM		GARDEN
	WASHING-ROOM		PLAYING-FIELD
	ROOM FOR MEALS		TENNIS
	MORNING-ROOM		HORSE-BOXES
	LIVING-ROOM		BIRD-HOUSE
	SERVANTS' LIVING-ROOM		SUMMER-HOUSE
	MUSIC-ROOM		GARDEN OUTHOUSE
	SUN-ROOM		GLASS-HOUSE
	WINTER-GARDEN		PLAYING WATER

I. OUTLINE

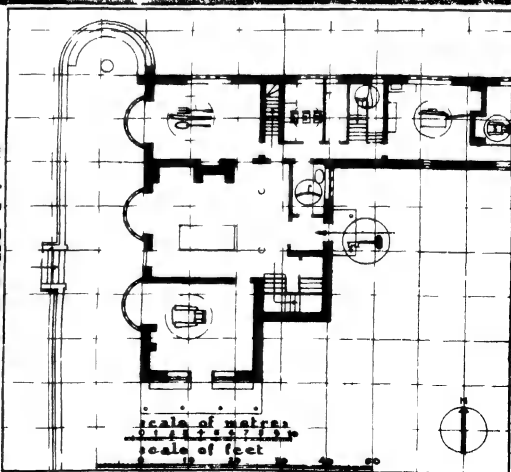
In all the arts there was a marked change in feeling after 1800. For a hundred years and more before this time the qualities most respected were those of reason, order, good sense and good taste—the qualities, in a word, of men of birth and position. The music of Mozart, the paintings of Reynolds, the verse of Pope and the writings of Voltaire have something far more in common than anything to be seen in the works of men of art of later times. Everything in its measure was their watchword, nothing violent and nothing unwise. They were the servants of the great, and all arts were second to the art of behaviour. This was the time when the rulers of Europe and their great landowners came into full flower, and even fighting was a polished art done by small expert armies for political reasons, chiefly for the Balance of Power. Even power, you see, had to be balanced. And of all the arts the one nearest to their desire for an ordered and respected way of living was the art of building. In their great country houses and town houses not only had they a beautiful and untroubled stage for the serious play of behaviour, but a record, it seemed, for all time of their power and their love of art. So it is that through all Europe to-day may be seen such unequalled and different buildings as Hampton Court, Castle Howard, Drottningholm, the Place Vendôme, Prince Eugène's Belvedere. And this feeling for all things in measure was somehow common to all, so that the houses of the less important are only different in scale and not in quality; even the smallest are pleasing and the worst no worse than uninteresting. In comparison with the present we may safely say that there was no bad building between 1650 and 1800. Growth, however, is stronger than the limits put upon it, and this hundred years of reason came to a violent end in the French

Revolution. But before this it had been slowly undermined by attempts at a freer and more open form of existence. Rules, it is said, are made to be broken, and men of art are generally responsible for the first conscious crack or two. The writings of Rousseau, the Gothic gardening, the songs of Burns and the new taste for blood and thunder in fiction were all signs of the times and made the way clear for that sudden outburst of feeling which took such different forms as the music of Beethoven, the military operations of Napoleon, the verse of Byron and even, at the other end of the scale, the waltz and the loose living of the Prince Regent. The pleasure of living was like a new discovery, and if it went to a number of heads like wine it was no more than natural. Talk of good taste is out of place when one is let out of school for the first time after a hundred years of good behaviour. But it is hard to say if the years between 1800 and 1840 or so were the start of a new order or the end of an old one. Though there was a reaction against the limits of good form there seemed little tendency to its opposite, bad form, and certainly nothing like the unhealthy growths of false form which were to become general in another hundred years. In a number of ways these years have more in common with the seventeen hundreds than the eighteen hundreds, and in the art of building there is no doubt at all that they are the complete and quiet flowering of that long process of rule and order. In the middle and late eighteen hundreds the shades of the prison-house become thicker and thicker as the requests in church for all things bright and beautiful become louder and louder. Architects simply did not see the good qualities of the buildings which have now all our respect and attention. They were unmoved by the music of Soane's houses, Nash's great terraces in Regent's Park, the wide streets at Cheltenham, or any of the able works of the Regency—that expansion of English building among whose architects are men like Humphry Repton (1752–1818), John Nash (1752–1835), and Sir John Soane (1753–1837). Sir John Soane had one foot in the seventeen hundreds and the other in our present day. He was the son of a stone-worker and



Example 1

*C. R. Ashbee (London).
72-73 Cheyne Walk, Chelsea (189.
View from the Thames waterfront.*



*C. F. Annesley Voysey (London).
Broadleys, Windermere (1898).*

had his training in the offices of Dance and Holland. When he came to London in 1768 Robert Adam was at work on the building of the Adelphi. Soane did not do much building—additions to the Bank of England, Dulwich Picture Gallery, a church and a house or two, and the list is almost complete. But these are works of quality and uncommonly well planned, with quiet and unforced detail. His house in Lincoln's Inn Fields (1809) with its square massing and flat and simple ornament is as new in feeling to-day as anything put up between his day and ours. As for Nash, his great designs are among those one or two things which still keep London respected as a town.

In Germany the work of Karl Friedrich Schinkel (1781–1841) was equal to that of Soane and Nash. In writing of his work, his position as controller of all building in Prussia seems almost less important than his qualities as a man. His first work was done round about 1800 under Friedrich Gillys and in a short time he had been responsible for the Schauspielhaus and the old museum in Berlin. His Renaissance designs are noted for their simple and clear line and a certain purposed organization which has in it a suggestion of the present day. Though his designs were Gothic and Renaissance in turn he was equally good in the two forms, being against the automatic copying of examples taken from history. It was his belief that Gothic and Renaissance might be made one. But it was natural that the general need of the times for decision in form had its effect on him and made itself seen in his poor planning and the uncertain relation between the inside and the outside of his buildings. After his death building in Germany became no better than a feeble and automatic copying from the noted examples of the past.

German houses round about 1800—there are first-rate examples at Frier and Weimar—have the same good qualities as those of the English Regency—a sort of polished good behaviour with no overstatement about it. Those small Regency houses in St John's Wood, in Kensal Green, in Clifton and Harrogate were the last England was to see of good house-design till about 1900. We will

not be able to see St John's Wood as it was very much longer. A violent development has been started and the white dust of plaster goes up into the sky like the smoke-bursts of gunfire. The industry and the smoke and oil which have come between those days and ours may well be regretted at the thought of the quiet and delicate houses which might have been ours still.

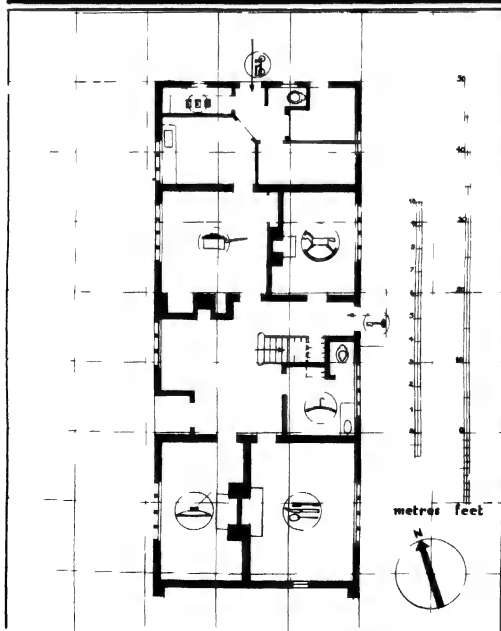
While the Regency was still in full flower the old order was being quietly put to death. It was the morning of a time which was to be full of the noise of railways, ships, iron and gasworks—a time of expansion, power and money—of uncertain taste, religion and fear—full of the surprises and shocks of living among new things—newer than anything there has been in our day. It is not hard to see that this sudden expansion sent architects self-consciously after forms of building which would be equal to the discoveries of science—back to the great columns of the Acropolis, the strong walls of Imperial Rome, the stones of Venice and the mosaics of Byzantium.

And what a development there was! Steam was used in mining, machines, railways and ships. In 1829 Stephenson's "Rocket" took the reward offered for the best engine by the committee of the Liverpool and Manchester Railway. The opening of the Liverpool and Manchester line took place in 1830, the London and Birmingham line in 1838, the Great Western Railway (as far as Bristol) in 1841. Everywhere new companies were at work on this network of steel. It was the same in the ship-works. "The Great Western" (1340 tons) went across the Atlantic in 18 days with her two steam engines and her great water-wheels. The sea journey by steamboat to India was made possible not long after. In London, Chatham, Sheerness, Hull and Liverpool great harbours were made for shipping. A great development in the art of bridge-building was started in Rennie's Waterloo Bridge (1811). This was in granite, but in 1819 his iron bridge at Southwark was complete at about the time Telford was starting on the Menai Bridge between Carnarvon and Anglesey. In 1846 the most noted of all Victorian bridges was started in the Britannia

Bridge a mile away from Telford's bridge to Anglesey. The Grand Junction Canal, 90 miles of man-made waterway across low and high land, was complete and open to trade. Great prisons were put up, the most noted being Pentonville, whose plans were an example to all other countries—or so it was said. Great things were being done with lighting by gas. By 1834 there were 168,000 gas lights in London. Naturally all these changes had an effect on the smaller things whose size makes them seem unimportant. Such things as chairs and tables were looked upon as in need of touching up to put them more into scale and so were ornamented with every sort of unnecessary detail, even with openwork, and thickly French-polished. It has taken us all the time between then and now to get back the sense of relation and measure which was so general in the seventeen hundreds.

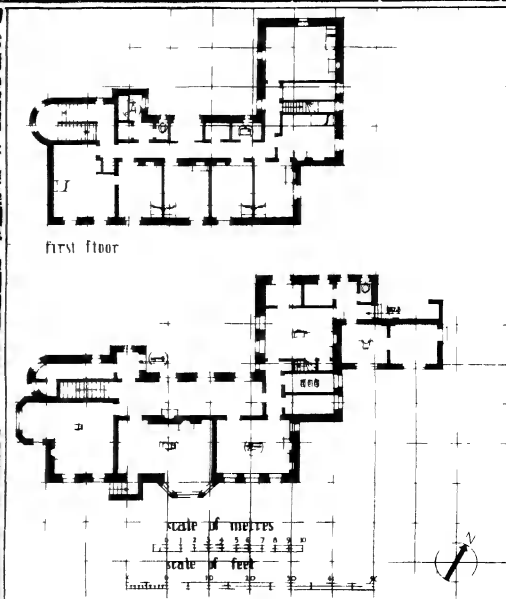
But from 1840 to 1900, men's thoughts were turned from living to making a living, and in the great expansion of trade and the opening up of markets all over the earth, together with the sudden developments in industry and the uncontrolled growth of towns by reason of the increasing numbers living in them, it was possibly natural that, for a time at least, the arts of well-being took second place. It would be quite wrong to say, as is so frequently said, that these years are representative of everything which is false or feeble or in poor taste and to give a picture of Queen Victoria's bedroom in support of this opinion. It is best to keep in mind that Victorian England was like a new "colony" in the middle of surprising discoveries and that there was little time for second thoughts. The great men of the time were seemingly on a greater scale than now and were fully conscious of their responsible position. Possibly they were over conscious of it and so made attempts to do things outside their range, though there is no doubt of their very great powers and their true feeling for right and wrong. But art is no respecter of persons, and in art to be a good man is not enough. Great and good as they were as men, their idea of art was that of a part to be played in the last act of the history of Man's development from 4004 B.C. to the Great Exhibition of 1851.

Like the great church of the new religion of trade, came that Royal Glass-house, the Crystal Palace of 1851. In 1845 Prince Albert put the idea of an International Exhibition before the Society of Arts. General interest was taken in it and money came in from all directions. The Prince Consort's opening words give us a good idea of the times and the Victorian point of view at its best. "Nobody who has given any attention to the special qualities of our present time will have any doubt that we are living in a time of most surprising change which is quickly giving material existence to that great idea to which all history is pointed—the uniting of all men as one; not a coming together based on the destruction of those limits and levels which make up the special qualities of the different nations of the earth, but one which is the outcome of those same different qualities and sorts—Science makes the discovery of these laws of power, motion and change; industry makes use of them in the material which the earth gives us so freely; art makes clear to us the unchanging law of value and harmony and gives form to what is produced in relation to its properties....The Exhibition of 1851 is to give us a true test and a living picture of the point of development which Man has come to in this great work, and a new starting-point from which all nations will be able to take their direction in their attempts in the future." How far are we now from that certain feeling! No less certain of himself was Joseph Paxton (1801–65), a gardener-architect with a glass-house mind and a great idea—the idea of putting up the greatest glass-house on earth. His chance came in the competition for the design for the Exhibition building to be put up in Hyde Park. 238 designs were sent in but, as with most competitions, there was something of a fight among the architects and judges, and no agreement was come to other than that the designs were no good. The Committee were of one opinion on the point that the building had to have a round arching roof 200 feet across or twice the size of the one on St Paul's. All the guns of *Punch* and *The Times* were turned on this idea, and in the middle of it all Joseph Paxton, the gardener of the Duke of Devon-



Example 3

*C. F. Annesley Voysey (London).
The Orchard, Chorley Wood, Herts (19*



*Charles Rennie Mackintosh (Glasgow).
Windyhill Kilmarcoln Renfrewshire (1900)*

shire, who had some time before this put up a great glass-house for the Duke, saw his chance. In nine days, in between journeys to see how the work on the Britannia Bridge was going forward, he got out a design for a mass-made building which, by reason of its small needs in money and materials, was taken up. Nothing quite like it had been seen before. In plan it seemed like "outside" needlework, so small were the supports for the structure, which was completely in iron and glass and so of little weight. The building was supported by 1106 hollow 8-inch iron columns based on concrete. What a change this was in the system of structure may be seen in the fact that the space covered by all the points of support make up 1/2000th part of the complete building and in St Paul's the walls and columns take up 1/6th. The Crystal Palace was taken to South London after the Exhibition was over and there put together again. Happily it was not used—this was a serious suggestion—as a cover for Shakespeare's house at Stratford-on-Avon to keep it safe—like wax-fruit under glass—from the destruction of time.

The Crystal Palace, the Britannia Bridge and the Bibliothèque Sainte-Geneviève are works in true relation to the conditions and structures of their time. But side by side with these there is that great mass of building which, though ably done and designed on a great scale, is work based on theory and not on natural facts. This is the Gothic Revival—a shade of the past seen as in a dark glass. The new Gothic made an early start with Fonthill, old before its birth and now long broken-down, and its high-water marks were touched with the works of Barry (1795–1860), Scott (1811–78), Pugin (1812–52), Butterfield (1814–1900) and Street (1824–81)—those great but unguided powers. Their works are a last violent protest against the engineers, an attempt to make the old ways of building equal to the sudden expansion of science. The unconscious voice of this protest was Ruskin, whose *Seven Lamps* (1849) gave great comfort to the Gothic architects and to every little builder between Kensington and Bromley. The fire of his words was their downfall. There is no doubt of the Gothic

Revival architects' interest in structure, their buildings are complex enough. And there is no doubt about Ruskin's interest in ornament. But the effect is St Pancras Station and the Venetian front doors of South Kensington.

Gothic somehow was taken to be more in harmony with man's higher purposes and his feeling for religion. It was there ready made for them and they had no time for wasting, even on getting a true measure of its special values, so they took it over and with the help of good English workmen and good English money had our towns weighted down with free and very serious copies from earlier history. Architects like Pugin, Street and Scott were highly respected and hardworking men and their only error was in their idea of art as chiefly the power of taking trouble. Naturally the feeling became common and newcomers into society, men of substance and business men generally—in fact everybody who was at all important in the middle and top circles of society—took to these ideas without question and had houses put up for themselves which would give them a feeling of having long family histories. When one keeps in mind the fact that they had the authority of Ruskin at their backs and the example of the Queen before them it is not at all surprising.

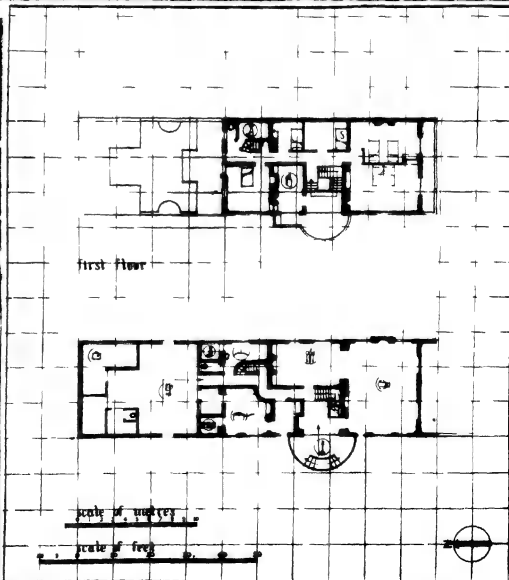
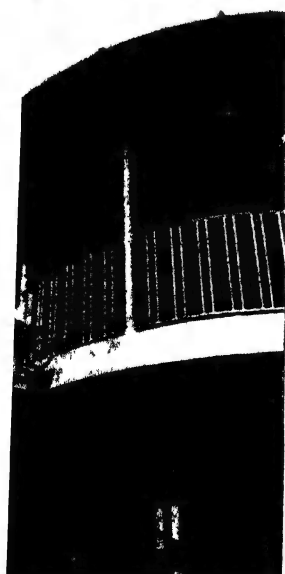
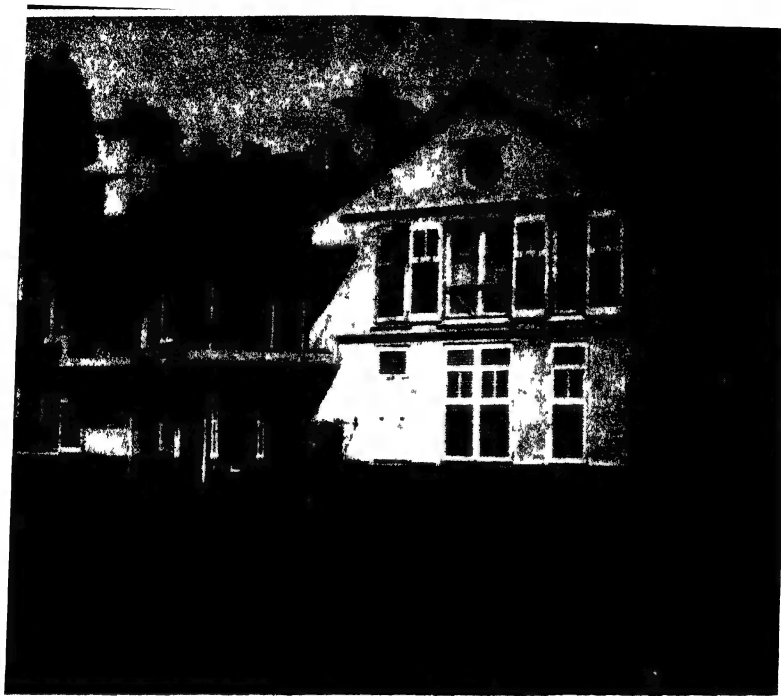
There is no better way of seeing how different is our point of view from that of the Victorians than to take a room on the top of Scott's St Pancras Station Hotel and, after the reading of some pages from the *Stones of Venice*, to see the light go out of the sky through the great Venetian Gothic windows of your bedroom. You are so high up that the poor streets of St Pancras might not even be there, and you may have all those beautiful feelings of getting away from everyday existence which were present in the architect's mind when he was at work on the designing of the building. And you will seem far from the loud noise of the machines which, unconscious of right or wrong, are working solidly for the future, making the earth (in theory at least) a better place for living in. What of these machines?

The year 1851, which to the undoubting mind of Prince Albert



Example 5

*Charles Rennie Mackintosh (Glasgow).
Windyhill, Kilmacolm, Renfrewshire (1*



George Walton (London).

seemed a sign of "the uniting of all men as one" was, in addition, the start of a competition in profit-making which was to come to violent blows in 1914. Tennyson's words seem made for the event of 1851. In dark angles of the Crystal Palace there were the forms of "hollow shades".¹ There was no profit to be made out of true art. And so the machines were given over to the producing of trade copies of it, the very thing the public taste was ready for. Architects were no less conditioned by the general desire of value for money—history with ornaments and art with additions, as in the store-houses of those Manchester Kings of Trade, and the Alexandra Palace Exposition of 1873. The houses of the well-off at this time were like the stage of a third-rate company acting something out of history in the wrong dresses. The houses of the poor were all in streets like unending lines of smoke-coloured teeth. Such was the stage made ready for that Playboy of Art and Letters, William Morris (1834–96). He was the flame of Ruskin's fire, giving effect to his ideas, himself a designer not only in words but in material things. Ruskin had nothing at all in common with Pugin and his supporters—"the smallest architect possible" he says of Pugin—and made strong protests against almost all the buildings said to be based on his teaching—"the unnatural Frankensteins of my unconscious making".² But in the works of Morris his ideas came to a healthier growth, and were in the end to be the cause of a new birth in art generally. In 1856 Morris went into Street's office to become an architect. Street's chief office-worker at that time was Philip Webb (1830–1915), and he and Morris quickly became good friends. Not long after this Morris gave up building and took to painting with Rossetti, but an outcome of his relations with Webb was *The Red House* which Webb put up for him and Mrs Morris in 1859. Unchanged to this day *The Red House* may still be seen among its apple trees at Upton, not far from Bexley Heath. Straightforward and well-reasoned in its planning, it is a turning-point in the history of the house. Gone are all the ornaments and unnecessary apparatus of design. It is a clean start again in building as the art of structure,

a natural growth of the materials and the needs of the plan and position. Coming to the furniture for his house, Morris suddenly saw that the lesser arts in England were in a shocking condition. There was nothing to be had half good enough for Webb's design. The only thing to do was to make his furniture and so, in 1861, the business of Morris, Marshall, Faulkner and Co. came into being. Most of the furniture was designed by Webb. The meal-table done by him for The Red House is a good example of his work and of how right and clear was his feeling for design. Morris made himself responsible for the wall-hangings, cloths, wallpapers and windows for which the business is most noted. In their feeling for the true qualities of a material and its right use these gave a much-needed guide to the machine and a measure of taste to industry in general. It is not hard to say that Morris, in turning away in disgust from the far from pleasing facts of Manchester and Birmingham, made a foolish attempt to get somewhere "east of the sun and west of the moon", but it would be truer to say that by putting his weight into the other side of the scales he was making an attempt at a balance of power between art and the machine. In the face of all the forces which the nineteenth century had put into the unready hands of business men unused to the control of power, this was work for a great and responsible man. Morris not only gave himself over to the development of art but to work for the common good, the ordering of profits and the distribution of the needs for a happier way of living. He saw that art was but one part of the structure of society, and that in so far as it did not have any value for society there was no true pleasure to be had in it.

"I have no belief", he says, "in the idea that it is possible to keep art a living fact by the work, however hard, of three or four groups of specially expert men and their small number of supporters among a general public unable to come to any true knowledge of their work or to take pleasure in it. All good art is, in the future as in the past, the outcome of the desires of everybody for what is beautiful and for the true pleasure of living. This is the art I am

looking forward to, not as an uncertain hope but as a certain fact based on the general well-being of all. It is true that the flowering of it I will not see; but we are even now seeing the seed of it giving the first signs of its earliest growth. No one may say now what form that art will take; but it is certain that it will not be dependent on the impulse of one or two persons but on the desire of all.”¹

The architects who took a chief part, together with Philip Webb, in the new birth of house design were Norman Shaw (1831–1912) of Edinburgh, and Eden Nesfield (1835–88). They kept the best part of Gothic—that is, the love of good quality in material and work—but there is nothing clear-cut about their outlook. It is enough to say that they put new blood into good Queen Anne—still living though there had been so much talk about her death. Out of Shaw’s office came Ernest Newton (1856–) to keep on his ideas of building and to be responsible for a new forced balance of design—as in Redcourt, Haslemere. His books on houses are but one sign of his responsible feeling for the art of building. Another of the School of Shaw was Sir Ernest George (1839–1922) out of whose office were to come Sir Edwin Lutyens (1867–) and E. Guy Dawber (1861–), two architects equally noted for their great country houses. Lutyens is almost the last representative of “Art and art only” in building. Our approval goes out to the massing, the delicate detail, the polished language of Sir Edwin’s great houses—Heathcote, Ilkley; The Salutation, Sandwich; Hill End, Preston—and we come away with a “sense of the past” and a sad feeling that those were the great days, the days which are no more, and so on.

The time of change between the present century and the days of Morris and Ruskin does not seem very interesting to us now. It is true that the first signs are there but they are small, feeble signs. In building generally the works of the engineers, in form as in idea, are greater than those of the architects. In the field of house-design the best work is quiet and still untouched by the changes in structure and materials, though it was the responsible feeling for their art of a small group of architects at this time which made

possible the later developments in building which have now come into being. In this group, more because they all did good work than because they have the same ideas in common, may be numbered: W. R. Lethaby (1857–1931), C. F. A. Voysey (1857–), C. R. Ashbee (1863–), Ernest Gimson (1864–1919), Baillie Scott (1865–), George Walton (1867–1933) and C. R. Mackintosh (1869–1927). Lethaby was at one time the chief architect in Shaw's office and was a strong supporter of Morris, Webb and Ruskin. He had no love for the Renaissance architects, seeing in their buildings nothing but the advertisement of money and power, and was of the belief that in true Gothic there was a simple and happy sort of building with a more straightforward and natural relation to society. The one way to do such work again was not by the pencil and the copy-book, but by the instruments of building and the use of science. His view of art was unclouded by fear of the machine. "The arts of the engineer and the architect", he said, "will have to come together in the development of new structures." In 1900 he became the first Professor of Design in the Royal College at South Kensington. His effect as a teacher was very great. He was responsible for only a small number of buildings, and among his houses the best—a work of good quality and control—is Melsetter, Orkney.

Of Voysey, Ashbee, Baillie Scott, Walton and Mackintosh I will be giving some account in connection with the examples of their work. Ernest Gimson came to London from Leicester in 1886, when he was 21 and a warm supporter of the ideas of Ruskin and Morris. The White House, which he put up for Arthur Gimson, is still the only white hope in his town of Leicester.

The effect of such buildings on the solid Victorian was not sudden. In the field of ideas more good work was done by those writers like Ibsen, Zola, Butler and Shaw who made it hard for responsible men to keep their eyes shut any longer to the fact that all was not quite for the best in the best of all possible systems of society. Their ideas may have been slow to get through to the general public but their effect was certain enough on the more serious

and gave an impulse to clear thought and the decision to put up no longer with small changes which made things no better than before.

In Europe at this time signs of a new growth in building were to be seen everywhere. After such wasted attempts to get back into the past, the time had come for a complete change of outlook and a development in the only direction possible—that is, forward. The most forward architect in Europe was the Austrian Otto Wagner (1841–1918), who from 1864 was at work in Vienna and from 1894 Professor at the Kunstakademie. Of Wagner's School were Josef Olbrich (1867–1908) and Josef Hoffmann (1870–). Adolf Loos (1870–1933), of whose work there is a special account in connection with examples 45 and 46, was a school to himself.

Without question the greatest architect of his time, the first to be placed on a level with the great names of the past, is Otto Wagner. In his work the broken connection between 1800 and 1900 is at last bridged, and the slow and hardworking developments in design which we have been outlining come suddenly and clearly into being. The knowledge of the new conditions in building-structure was conscious and complete. It is sometimes said in a general way that the new free feeling for design came out of England and that European architects simply took over such ideas as those of Mackintosh. The new turn in European building is equally put down to Lloyd Wright's work in America. These had their effects, no doubt, and certainly important effects, but there is a common tendency in the direction of overstatement in talking of cause and effect, and we frequently see things in an over simple way, giving all our attention to details of furniture and ornament, and do not keep in mind the purposes of building, the organization of the plan, the ordering of masses on a great scale, and that knowledge of the unchanging needs of building which has come down to us from the past. Wagner had that power which puts everything into a right order as if by a natural force, and his feeling for planning—not two or three small rooms, but the com-

plete town—may be seen in the Steinhof, near Vienna (1904–5), with its square and simple buildings and at the top of the slope that strong, but jewel-like church. It is to be regretted that interest in the special ornament of his school has made us unable to see his true position in the history of building. The works of Olbrich, Hoffmann and Loos are all the fruit of his teaching and the effects of these three men are certainly important. Josef Hoffmann became head of the Wiener Werkstätten and his most interesting building, to my mind, is the Palais Stocklet in Brussels (1904)—the first complete house of the century, free in plan, worked out in every detail and with furniture and ornament in good scale with the forms. The ornament may be overdone for present taste but it is a first-rate work. By 1914 he had put up a number of great houses on the same lines. This ornament, however, was not at all to the taste of Adolf Loos who put his feelings on the point very strongly in “Crime and Ornament”, a division of his book *Trotzdem*.

The power for change in Holland was Hendrik Petrus Berlage (1856–1934), of Amsterdam, who, fired by the example of Cuijpers, made the decision to become an architect, took his training with Semper in Zürich and went back to Holland in 1878 where the best of his buildings is the Amsterdam Exchange (1897–1904) in which steel and glass are chief parts of the structure. Berlage got out a number of different designs for this building—different in the degree to which they were dependent on the past—but in the end he gave up his attempts to keep to the feeling of the past and put up a building free from all unnecessary connections and simply right for its purpose. He and Wagner were the first to get back to the true idea of purpose in building.

Berlage went to America in 1912 and saw and was deeply interested in the work of Wright, whose ideas he took back to Holland. Berlage was greatly respected in England and there is a good example of his work here in London in the Bury Street offices of W. H. Muller, the shipping company. This is a steel-frame building, a well-purposed design with no fear of simple units of structure.

Berlage's point of view is to be seen in his book, *The Basis and Development of Architecture* (1908), in which he puts down clearly and simply:

- (1) Forms in building are based on geometry.
- (2) The special forms of other times are of no use.
- (3) Forms in building are a development of their purpose.

So it was that in Holland the conditions of design-for-to-day were quickly seen and its growth was straightforward and strong. De Klerk's almost loud brickwork was changed to the quieter and solider sort of Jan Wils and W. M. Dudok. Then came Oud with his clean sense of form, Rietveld, sharp and Japanese as in his surprising house at Utrecht (1924), and Mart Stam, Duiker, and Brinkman and Van der Vlugt with their concrete and steel. Of this later Dutch work a more detailed picture is given in connection with examples 60 to 64.

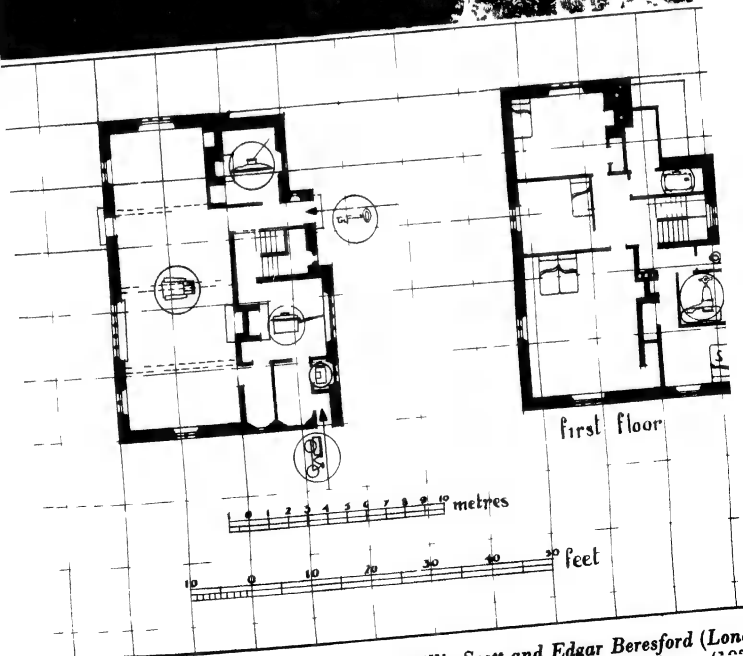
"The time of change in France comes to an end in that rule of ornament by the Art Nouveau which had such an effect on the design of later store-buildings. The greatest representative of the Art Nouveau in France was Henri Van de Velde. In the architect's house at Uccle in Belgium in the early 90's he had made an attempt at the development of a furniture which would be more in harmony with the times. The effect of Morris may be seen in his work and he did even better in simple and reasoned forms without any ornament at all."¹

Van de Velde (1863-) had his early training in Antwerp, the town of his birth. In 1892 he went to Paris and then, moved by the new ideas in the air, to Germany, where he was responsible for the starting of the School of Arts at Weimar, Thuringia, of which he was head till 1914. As an architect without political limits and a man internationally respected he had and still has a great effect on building in Europe. His *Vernunftgemässe Schönheit* (The Reasoned and the Beautiful), printed in Leipzig in 1909, is one of the earliest writings in which the machine is looked upon as an instrument of art and as something beautiful in itself. In machine-forms he saw suggestions of a new sort of building which would be

truer to the materials produced by those machines. Hope was no longer only to be seen on the headstones of Vignola.

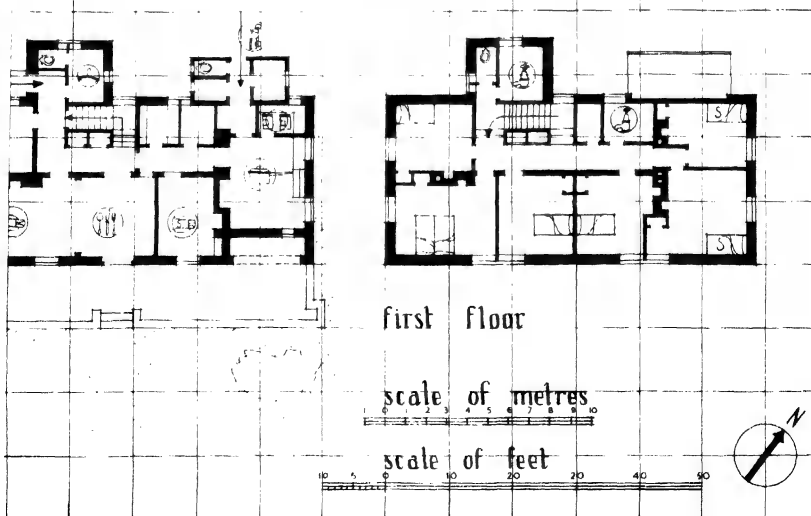
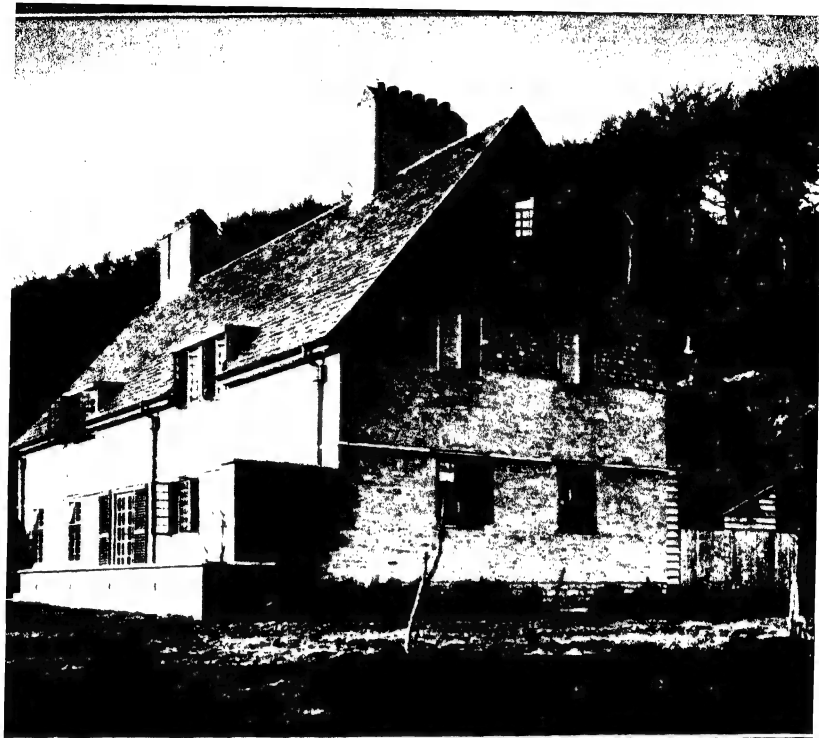
In 1911 Van de Velde, working with Auguste Perret, was responsible for the Théâtre des Champs Elysées and in 1914 the noted Werkbundtheater at the Cologne Exposition, now pulled down, was designed by him. The interesting point of the second theatre is the round stage at three levels, with its property stores on opposite sides and dressing-rooms on the curving back wall. Stage and public hall are the important parts of the outside massing of the building. It was one of the best examples of design for purpose in the theatre. Van de Velde is now head of the Institut Supérieur des Arts Décoratifs in Brussels, an organization which the government put under his control in 1926.

Another great architect-teacher of the same time is Theodor Fischer (Schweinfurt, 1862). He has a long connection with Munich where he had his early training, was Chief of Building from 1893 to 1901, and from 1908 was for twenty-one years Professor at the Technische Hochschule. Among those trained by him were Bonatz, the architect of the great station at Stuttgart (1914), Elsaesser, designer of the Market Hall at Frankfurt (1927), Mendelsohn (ex. 84), Oud (ex. 60, 61), Taut (ex. 80), Alfred Fischer, architect of a number of good business buildings, and Schweizer, architect of the noted outdoor sports buildings at Nuremberg. The buildings of Theodor Fischer himself are very good examples of a certain touch in design and a wide outlook in the use of materials. As early as 1905, in the church at Ulm, he was using steel and concrete without fear of opinion or loss of effect. One other architect in Germany who is important in the years before the war is Peter Behrens (1868-), a fuller account of whom is given in connection with the examples of his work. It might be said that Behrens is the offspring of Wagner and Theodor Fischer—certainly his black and white Crematorium at Hagen (1906-7) has the bright Tuscan quality of so much of Wagner's work. However it was not long before he gave up these picture tendencies to become an architect of great buildings for industry.



Example 7

Baillie Scott and Edgar Beresford (London 1900)



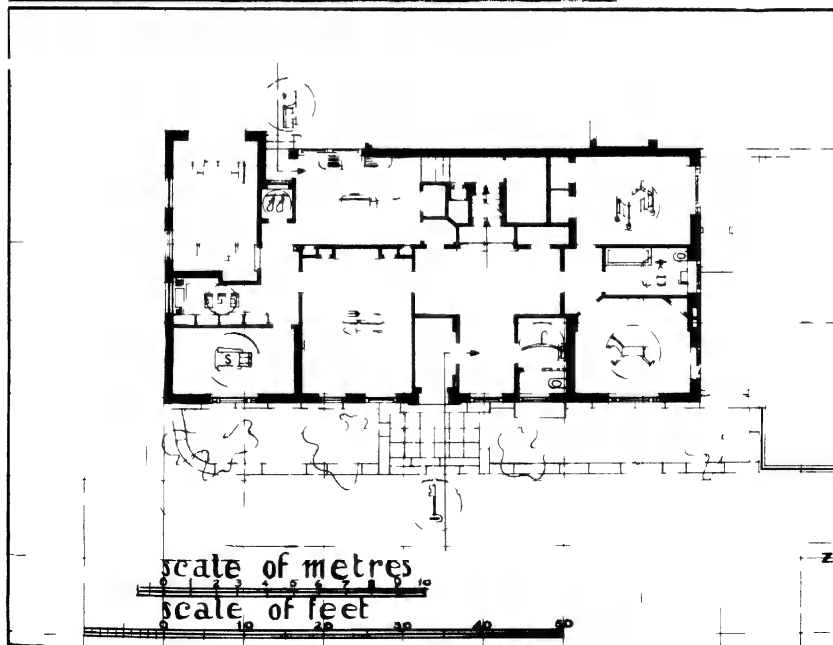
His A. E. G. Turbinenfabrik (1909) is the building which had most effect on the young architects of the time—Gropius, Corbusier, Adolf Meyer, Karl Schneider and Mendelsohn. This building seems as new in feeling as it was then and is becoming one of the century's evergreens.

Turning to France before the war we come across only two important names—Tony Garnier (1869–) and Auguste Perret (1874–). Trained in the ways of the Beaux-Arts and Rome, it was only because of their special interest in engineering that they kept more or less free from the bad effects of Beaux-Arts, though this training is the probable cause of much which is bad in their work. Perret's noted houses at 70 rue Franklin, Paris (1903) are well planned, interesting in structure and design, but somehow rough and unpleasing. The Théâtre des Champs Élysées (1913) is good in form and structure but one's approval is again conditioned by its ornament and paintings. The churches at Le Raincy and Montmagny are great attempts at using a new material—concrete—in its true form, but it is to be regretted that the detail is so rough as to seem more like play than art. Garnier is town architect at Lyons and most of his work has been done there. As a planner on a great scale, on a Roman scale, he has no equal, but his buildings still seem cold and unpolished, though this may be because of the limited money put into them.

Perret's work had a great effect on Corbusier and Lurçat. Lurçat is the more French in the quality of his work but the two of them are as little representative of the mass of French building as are Sir Owen Williams and Charles Holden of the mass of English building. For some years there has been no body of good architects produced in France any more than there has been in England, but of French engineers there are a good number. Freyssinet is one of the greatest engineers now living. This expert engineering of the French may be put down to the existence of a first-rate school for engineers in the École Polytechnique whose history goes back to 1794. The present low level in regular building comes equally from this reason, because while the Beaux-Arts kept to art the

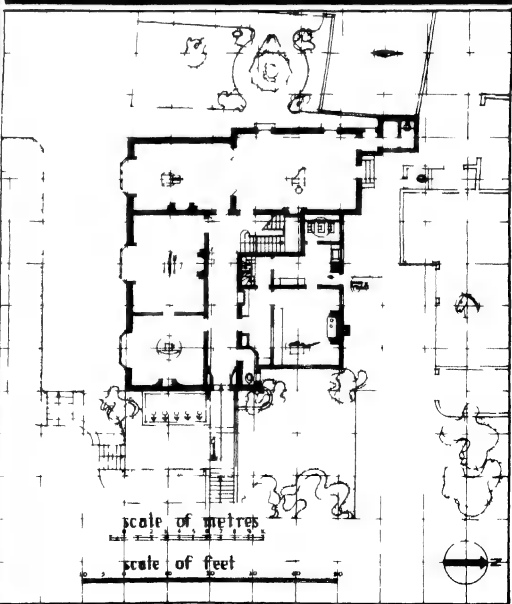
Polytechnique kept to science and little attempt was made at joining the two.

In England the architect and the engineer have taken separate roads for a long time and the reason why our present building is not better is in the fact that the two powers have not so far been greatly united in one person. We have had a great number of experts in different branches of the art but not one with a complete grip of twentieth-century needs and developments in building. It would seem that for most of them there is no attraction in engineering. They are not interested in the fact that concrete is now sixty times stronger than it was in 1850 and that to-day it would be possible to put up a new St Peter's with only a fourth of the material. The important thing about men like Wagner, Fischer and Behrens is that they took to engineering and to new systems of structure without fear of opinion or any uncertain feeling of letting themselves down, and they were great teachers because they were working architects, learning for themselves as well as for others. In 1898 Otto Wagner was using steel plates for facing his new stations for the Vienna Railway. This is representative of the interest of these men in the materials produced by science and they may rightly be looked upon as a new sort of architect—the architect-engineer who is the one hope of building. It is only necessary to take a look at the development of steel-concrete to see what is wrong with a training in the dead building systems. In the middle of the nineteenth century the development of steel-concrete was going quietly forward, chiefly in the hands of a small number of English builders, but it gave architects no cause for trouble till Anatole de Baudot (1834–1915) made use of it in his church of Saint Jean l'Evangéliste in Montmartre (1894). Between then and now there has been a great number of buildings in this material, some of them among the best examples of any form of building in our present century. Side by side with them new-old forms keep up their solid competition with the past, clothing their very new frames in old-time dresses, but the great buildings of this century are great because



Example 9

Sir Giles Gilbert Scott (London).



of the straight statement of their materials and structure. Goodhart-Rendel, talking of a building by Jan Wils, said: "When you see a building like this you do not give thought to its organization any more than to the blood conditions and good digestion of a beautiful woman."¹ This may be true of love in its first flowering but it takes more than outline to make a good building or even a good woman.

The turning-point twenty years back was the Werkbund Exposition at Cologne in 1914. Here, side by side, were Van de Velde's theatre, the office building by Walter Gropius and Adolf Meyer and the glass-house by Bruno Taut.

The work of Gropius at Cologne was a certain sign of the great changes coming, but the outburst of war in the same year made these changes seem farther off than ever and in comparison with the military scale of events quite unimportant. It is not possible to say what probable great architects there were among those millions of dead, but on those who did come through undamaged the effect of that time of destruction seems to have been a burning desire for sunlight and clean air and clear thought. The machines did their work at last and Metal took control, but not quite in the way Prince Albert had in mind. And when peace came and half the nations of Europe were broken, the chance to make a new start was not at first attempted. In the nations which "got the best of it" the old men were still in the seats of authority and the old order seemed as unchanging as ever. Towns which for three and four years had been only so much bricks and dust were put together again as copies of their earlier selves. There was a general desire for the peace of the little town, the flowers at the garden-foot, the quiet fireside, anything which had no suggestion in it of the fact that there had ever been a war at all. So it was that in England a sense of the past took the place of a feeling for the living present and men's eyes were turned again to the old forms which had been kept safe, it seemed, for ever. With the nations overcome in the fighting it was different. The war had been between the old orders of the different countries, and in Germany and

Austria the old order was, for the time being at least, ended. The men coming back from the broken fronts were ready and more than ready for a new and clean start, and though the uncontrolled increase of paper-money till it had no value at all and the general hard times everywhere put cruel limits on them, it was not long before they were building structures which were strong and sometimes violent statements of their desire for a freer and healthier way of living. In Holland the effect of the war had been in the direction of a more responsible organization of building generally and it had given impulse to the great housing developments in Amsterdam and Rotterdam. De Klerk went to work on his great masses of brickwork with a sort of Gothic fire which at first took the public eye but was later to give place to a more serious and quieter point of view. In America the industry of building was in the highest flights of development and saw the sky as its only limit. Long before the war the surprising work of Frank Lloyd Wright had had an important effect on architects in Europe but in America he was overlooked in the uncontrolled bursts of building all over the country. There was no time for responsible building in the general disease of making money. Those European architects who went to America after the war came back, like Alice from the looking-glass country, somewhat at a loss as to their reactions to the scale of the engineering and the strange flights and effects of the American architects. The Chicago Tribune Building, for which there had been an international competition in 1922, is representative of America in the first years after the war. From the time of Fonthill no stranger sleep-picture has been given solid form. Though the detail of it is Gothic the feeling is true American.

In England at this time the architects, with one eye on America, were working hard on the destruction of Regent Street and putting it back again with all sorts of important-looking additions. Norman Shaw's Piccadilly Hotel was first in the field in 1907. Of no use was it to say with Wyndham Lewis that "an important place, as a street like Regent Street is, has to be worked out in the smallest detail. It is not right for its growth to be like that of a

flower of the field, without thought, sense, or any cause but the chances and errors of trade".¹ The opening of Regent Street, as it is now, a line of stone roundabouts between two circuses, was done by the King in 1927. It is the measure of our taste in building in the years after the war.

Architects and designers in France were getting worked up about the "beautiful" and put their happy feelings on record in the Paris Exposition des Arts Décoratifs in 1925. Among the very mixed attractions of all that ornament there was one clear and certain voice in Corbusier whose Pavillon de l'Esprit Nouveau was one of the first truly healthy shocks to architects at this time. But while all this was going on, the hard work was being quietly done in Germany, Austria and Holland by such men as Oud and Gropius, and the Stuttgart Weissenhofsiedlung, of which there is a full account later, at last put the feet of all responsible architects on the right road. The seventeen architects interested in this great development came from a number of different countries, but England was not one of these, her eyes being turned to the Swedish Renaissance where the hoped-for second coming of the Art of Building was taken to be almost in view.

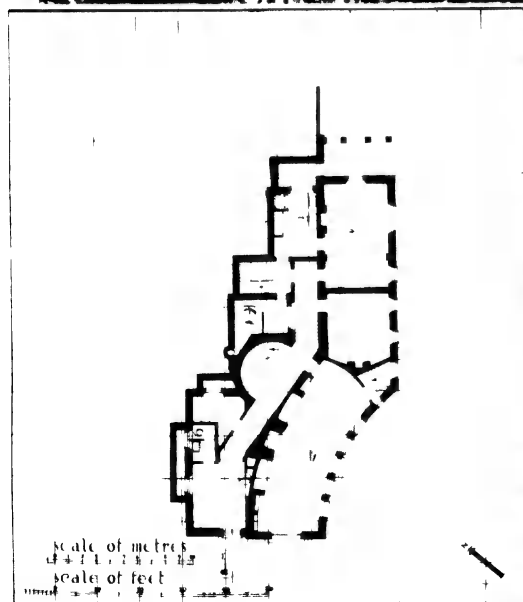
With the Weissenhofsiedlung we have come so near to our present time that it is frequently a little hard to see the wood for the trees (there now being almost enough trees to make up a good-sized wood). In my view there is no doubt that in the past six years we have everywhere come nearer to a common measure of reason and value in twentieth-century building and for this opinion there is certain and solid support in the hundred or so examples to be seen between the covers of this book.

In this outline we have taken a journey through the past hundred years of building and are now, possibly with a certain amount of dust and somewhat tired of the road, ready for a detailed observation of the New Jerusalem which is, or might well be, the end in view.

II. TOWN AND COUNTRY

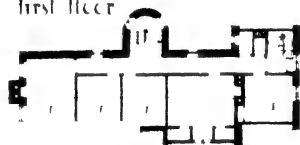
An outline has been given of the development of design, and the change in feeling in the arts over the last hundred years. Ten pages farther on there is a discussion of form and purpose and the effect of the general connection of these two questions among architects at the present day. But before going on to this point it is necessary to get a clear idea of the house in relation to society and the conditions of living. These conditions are at present coloured by the great changes going on in town and country, which are no longer the separate divisions they were in Georgian or even Victorian England.

The development of the town up to roughly about 1700 was in a number of ways conditioned by the need to keep it safe from possible military attacks. Wherever this need was no longer present its growth quickly became as uncontrolled as in towns of to-day, limited, naturally, by the fact that the rate of change in the number of people living in it was much slower than it has been for some time past. In Egypt and Mesopotamia the great mass of houses were unimportant and only that part of the town in which there were the public buildings and the houses of the great families and the king himself was planned on any reasoned system. Such towns were not at all safe against military attack but, like most great and important centres all through history, were dependent on smaller towns in this connection. Where, however, this need was present, the town was controlled because of the necessarily military structure of society. This was so in Greece, where the science of town-design had its first conscious expert in the person of Hippodamus of Miletus. Hippodamus, a little less than two thousand years back, gave his attention as a designer to the right-angled form and took the common square planning of the Greeks





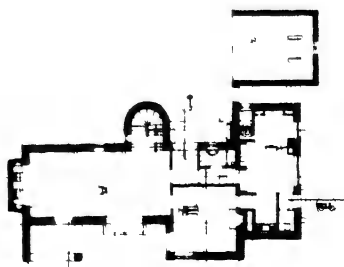
first floor



scale of metres

scale of feet

0 10 20



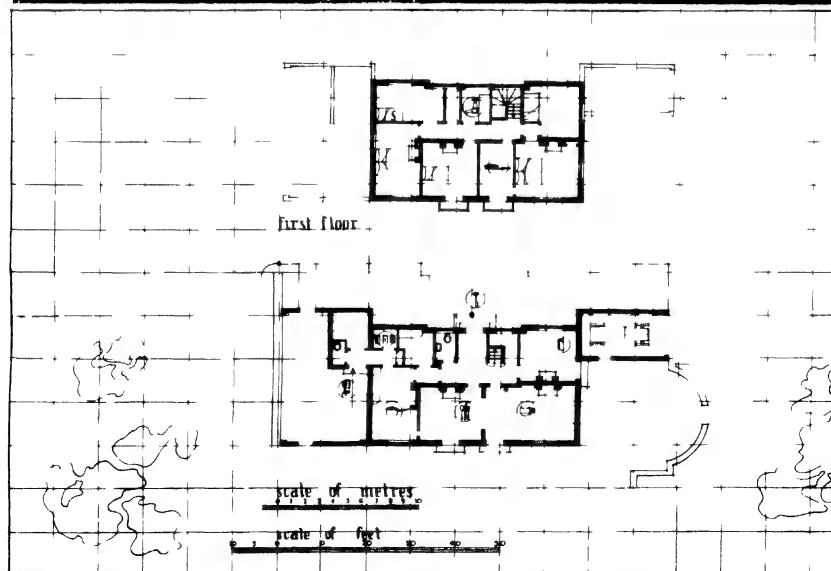
to a more reasoned stage of development. This square plan became a fixed system in the hands of the Roman military builders. All over the Roman Empire these military towns came into existence on the same plan, an organization of straight lines and right angles very different from the chance growths of Rome itself, bursting out of its walls in every direction. Only the Emperors were making any responsible attempts at town-design in Rome, most of the building done there being great groups of cheap flats put up by business-men builders.

In later times the Roman plan gave way to a more natural growth, a wheel system of streets off an open space or market-square in the centre, with public buildings, town hall, church and less important houses round, all shut in by a circle of walls. This wheel system, though generally roughly planned, was better than the Roman square which was so complete a unit in itself that there was little chance for natural expansion. In later times the town was planned from the centre, and its growth was by rings slowly pushing their walls out into the country on all sides so that, however great it became in size, there was little tendency for the parts to become separate, self-dependent organizations. The new Renaissance designs for towns, chiefly on paper, were, like the Roman, based more on the idea of limited and regular form than on the need for free expansion. Renaissance developments were chiefly in building over old towns and when, in the late seventeen hundreds, the greatest designs of this time were given effect they were only additions to, or adjustments of, towns which had been in existence for a long time. Wren's new plan for the centre of London is an example in point.

Road transport was very much the same through the different stages of history till the invention of the steam carriage. The transport unit was the horse in Horace's Rome as in Pepys's London and streets were designed for these conditions, though with what little effect may be judged from the fact that in Rome wheeled carriages were ordered to be used only after dark. The streets of London were little better till the eighteenth century,

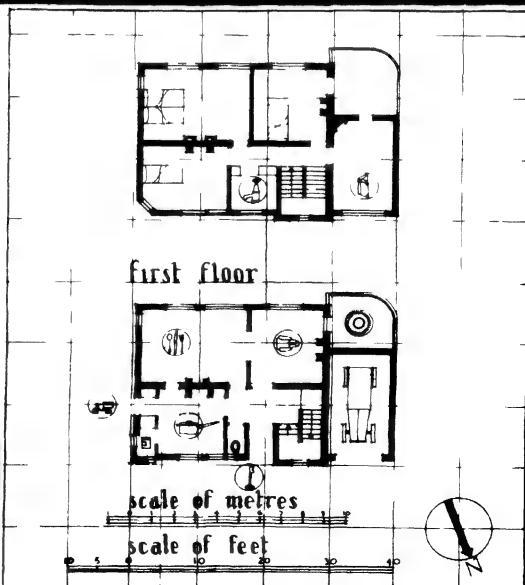
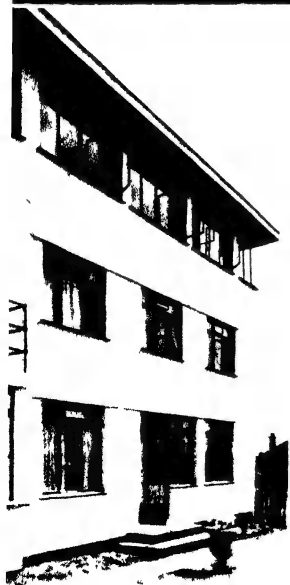
though there was no serious increase in the numbers of carts and carriages making use of them till 1800, when the sudden increase in size of the town made the public carriage more and more necessary for connection between the different parts. The invention of the railway came not long after this and made possible a looser distribution of the town and, in addition, a quicker expansion into the country, so that the growth of London—to take one example—became less controlled than ever. The invention of the steam engine was the cause of sudden developments in industry and a new distribution of workers, developments which went with a general change in taste, the stages of which were outlined earlier in the book. Town-design, such as had taken place round Regent's Park and in Bath and Edinburgh, gave way to the "builder's town-planning" as in Manchester and Birmingham. So great was the crush of houses that as early as 1840 Acts of Parliament became necessary. Up to the Act of 1875 limiting the greatest number of houses to an acre to forty or fifty, there was a general growth in all centres of trade and industry of masses of cheap houses in long uninteresting streets—frequently back to back and near to work-buildings—and designed with no thought for the physical conditions of those living in them. They had order of a sort but no organization other than that of putting one house in line with another in unending series of parallel streets. In this way great numbers of Englishmen and their families (between 1801 and 1851 there was an increase in the numbers living in Great Britain from $10\frac{1}{2}$ millions to $27\frac{1}{2}$ millions) were housed like animals and the greatest expansion of trade in history recorded only in masses of dirty and unhealthy brickwork.

Little thought was given to housing conditions in the country while towns were still to a certain degree country-towns, but when they became greater in size and three-quarters of the men and women in the land were living in them, there was a reaction away from the parallel lines of the street to the green, ever-changing countryside and the farmworkers' houses which made such pleasing pictures for postcard painters. This reaction was very



Example 13

Oswald P. Milne (London).



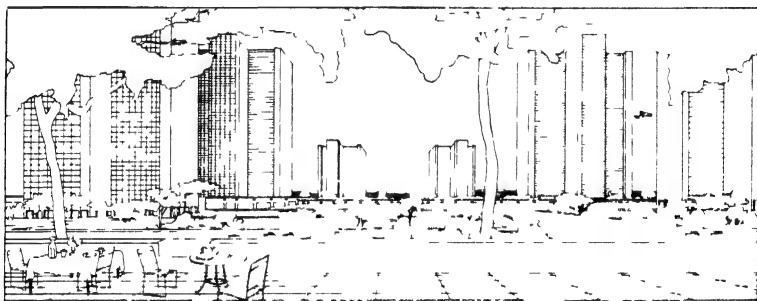
F. E. Towndrow (London).

natural but a little oversweet at first. It took form in the very English idea of the garden town. In 1898 Ebenezer Howard gave voice to this "back-to-the-land desire" in his book *To-morrow*, a plan for a garden town of 30,000. The outcome of this was Letchworth, Welwyn and Hampstead, in whose red-roofed houses happy representatives of the nation of shopkeepers made the best of town and country. The "town-country" had its attractions but the development of fixed rules of town planning, twelve houses or less to the acre, put town-design out of the question. Trystan Edwards has well said: "There is a danger that one day in the not very far-off future we will see printed in great headstone letters completely across England these sad words—'Here is the art of Town Design. It was put to death by the Science of Town Planning.'"¹

We have come to the time when the architect will have to make a change in his sense of values and see things in a way which may not have the old attraction for him. The conditions of society are such that the only present hope is in hard reasoning backed by the authority and knowledge of the man of science if there is to be any organization in the truest sense of the word in our towns and town developments. Art will have to become as certain and as measured as science. So quickly has the development of machine-power taken place that its effect has been quite the opposite of its purpose and the present stage of society is unequal to controlling it. The machine, well able to make man freer than he has ever been before, is kept as an instrument of profit or destruction. We have made distance unimportant by the invention of the automobile and the airplane, but the automobile is only half the power it might be because of the poor organization of roads and the airplane is of little use for anything but long distances because of the small number of planned airplane fields. To keep level with machine development it will be necessary for the town itself to be a machine—working smoothly and without error. There has been a change from the town as a military unit to one which is no more than a knot of roads and railways and

business offices round which a number of persons with little in common are grouped for reasons of trade and to make a living. From this last idea there will come a reasoned development of it in which the town is seen as a great nerve-system, needing the same ordered conditions for its wellbeing as the nerve-system of the body. "Only when the town becomes simply an instrument", says Lloyd Wright, "will it have the order which is beautiful.... This, the only possible machine seen as a town, will be used between the hours of ten and four for three days a week. The other four days of the week will be taken up with the more or less pleasing business of living in other places under conditions natural to man." This is a somewhat cold view of the future of the town and Wright gives no design of it to make it seem any better. The best and most possible of all the Utopias is Corbusier's. Corbusier puts forward in his *Ville Contemporaine* (1922) a design for a town of 3,000,000 persons in which no more than three-twentieths of the space is taken up with building. The work of all public organizations and all business is housed in twenty-four tall buildings sixty floors high and grouped at distances of a quarter of a mile in the open centre of the town. Round these great glass and steel-frame offices in the full light of the sun are the public buildings, theatres, restaurants and places of amusement among stretches of grass and trees. The rest of the town is a series of flats grouped round garden squares 1200 feet by 600 feet in buildings 110 feet high planned on the system of Corbusier's *Esprit Nouveau Pavillon*, but full of that changing effect which is not to be got out of buildings which are regular and parallel to the street. Round the town-limits are stretches of woodlands kept free from building, and to the east the great store-houses, works and goods stations, to the north, south and west the sports places and small dependent garden towns with separate houses. The two chief roads running north and south and cutting one another in the centre of the town are 360 feet wide for eighteen lines of transport in two directions. There may seem little control in so wide a road, but though the automobile may not go

at a much higher rate than at present there will certainly be an increase in numbers (there is still only one automobile to thirty persons in England in comparison with one to five or six in the United States) and for this reason a much greater space is needed in the planning of important roads. It is equally necessary to take waste of space into account. A London street full of automobiles, frequently with only one or two persons to every automobile, is as great an example of waste as a garden town with only twelve houses to the acre. In his design Corbusier keeps one very important point in mind. To make possible a high-rate mass transport by rail he has kept the same number of persons to the space



Corbusier's Ville Contemporaine

unit in his town as in the great towns of to-day. In the *Ville Contemporaine* the normal number of persons housed to the acre is 120. In Paris to-day it is 145. In the garden town with only fifty persons to the acre the price of rail transport is naturally high, making necessary such attempts at cheap overhead railways as the Railplane. Corbusier has made it clear that the American tall building which is an outcome of competition and the desire for increased profits may, if controlled, become a street on its end, a rightly placed unit taking up only a small part of the room normally needed and so making open green spaces possible in the very centre of the town. How different from New York with its tall buildings putting up a fight for air! Looked at coldly, Corbusier's design may seem more like a plan for a nation than

for a town, but to-day six towns of this size are a nation. Is there enough power among us to make possible a group attempt at giving effect to such ordered plans? Because there is no belief that such organization is possible the *Ville Contemporaine* is not generally taken seriously. But it has in it the seed of future growth. An increase in the number of persons to the acre may not necessarily be the cause of an increase in the number of persons to a room. At Drancy, a town five miles outside Paris, there is an example which makes this clear. In 1918 there were 6000 persons in the town. To-day there are seven times that number and it has been necessary to put up housing for 5000 of these on 27 acres of land. Under the English Town Planning Act 100 acres would have been needed for this purpose. This condition was overcome by planning a number of the buildings three floors high and the rest in five units sixteen floors high, the limit being controlled by the angle of the sun and shade. In this way in the Cité de la Muette the architects Beaudouin and Lods and the great engineer E. Mopin were able to have 190 persons housed to the acre in comfort and at a low price without more than $1\frac{1}{2}$ persons to every room.

Our present position is this: In the first place we have great natural centres now in existence in which the number of persons to a room is greater than is desired. The further growth of these centres will have to be limited and complete parts of them planned again, not bit by bit by different authorities but as part of a complete organization controlled by one body. Naturally while housing is still a profit-making business in the hands of industries in competition with one another and not an organization responsible to the nation there will be no such planning on a great scale. In the second place there is the need for new towns caused by the limits in size and number of persons put upon the old ones. Such new towns will be of two sorts—the Free Town and the Dependent Town. Their plan will have to take into account the rate of increase in the number of persons, the facts in this connection being as important as any which science is giving the

town-designer. In the last hundred years the increase has been surprisingly great; in the coming hundred the tendency may be quite in the opposite direction. There will have to be planning not so much for increasing numbers as for a new distribution of them. Changing centres of trade and industry will take the workers with them, so causing great adjustments in the organization of water, light, power and transport. In Europe at least all towns are dependent in some way on one another but the words "Free Town" are used here in connection with the town which is itself the centre of a number of dependent towns. A Free Town newly planned would be one limited in size, which, on coming to this size, would put out arms into the country forming dependent units separate from the centre body but still having a connection with it for transport, control and so on. It will be foolish if the probable growth of New York to 21 millions by 1965 (a statement by the Planning Authorities of that town) is not kept from taking place by making a fixed limit and keeping inside it. The same thing is true of London which, even now, is far greater than is desired from any point of view. To go through it from one end to the other is a sad experience. The planning on the outskirts is the natural outcome of uncontrolled private building and has less order than sheepwalks among the mountains. Go to Isleworth and you will see round Sion House thousands of houses without any sign of control other than that of Acts of Parliament. And in the words of Thomas Sharp, "The worst of it is that at no time has there ever been such a degree of control in England, such a chance for *town-building*. In 12 years 985,000 houses have been put up with government help, more than half of them by town authorities. Here was full control by authority, a greater chance even than any ruler with complete power ever had. And see what it has given us—Wembleys, Sloughs, Norris Greens. In those 12 years 334,000 houses were put up in Greater London—at a time when London was even then overcome by its size. Enough buildings for 45 dependent towns with 30,000 persons living in every one of them, 26 towns of 50,000, or 12 or 13 towns of 100,000" (*Town and*

Countryside, 1932). And not one designedly dependent town has been put up.

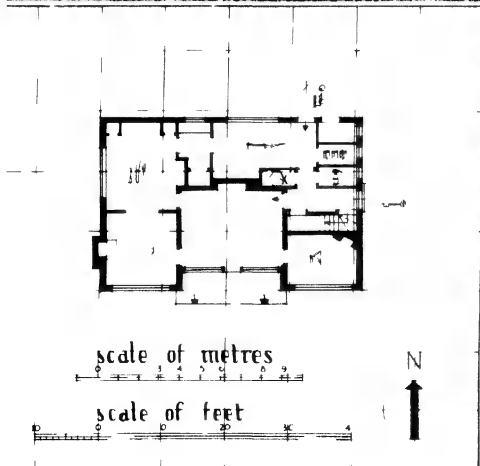
In England we are still waiting for a group of men with driving-force and the power of control who will be able to put into operation a nation-wide building plan without which the good qualities of the separate house will have only half their value. This plan will have two purposes, the building up of complete parts of our present towns on lines as reasoned as Wren's plan for London or the Voisin plan for the centre of Paris, and what is equally important, the planning and building of new towns. (Outside Russia the one example of a completely new important town is Canberra, the government centre of Australia, planned by Griffin.) The over-building of old towns has no reasoned effect on the design of the separate house, being conditioned chiefly by group-structures. It is in the new town that we will be able to give the private house its true value. The most possible plan so far put forward for Britain is for a "Hundred New Towns" limited in size to units of 50,000 persons. This number of new towns is no more than is necessary under present-day conditions. The plan would in effect put an end to the present system of uncontrolled building round our towns and all over the countryside and would give an ordered distribution to those new industries which every year give work to another 45,000 men. These hundred towns which separately are only two miles across would take up no more than 1/200th part of Great Britain while by uncontrolled development a hundred times that amount would be wasted. It has been said that we have everything necessary for the building of a hundred new towns but the money. The Hundred New Towns organization puts forward the suggestion that "the Treasury, without any further gold backing or any cover other than that of the property given existence by its use, might make and give to an authority specially formed for the purpose the money which is needed for building a hundred new towns in Britain. The government has made new money. What does it get back for it? Clearly it gets the buildings of which it is the owner".¹

It is certain that any planning on a great scale is dependent on land values. All authorities are in agreement that with town property in the hands of private owners there is no hope for town-design. Our attempts are very limited and in London even the Controllers of Royal Property have given a bad example by putting on their lands a value out of all relation to their size, so that new buildings put up under the Building and Town Planning Acts have necessarily to take every square inch of area up to the limit. Would the great housing plans of Vienna have been possible without the far-seeing control of the Town Body? Government control of land values is equally necessary for the good-quality building of the Hundred New Towns or any new towns at a price inside the range of the nation's income.

What then is the relation of the separate house to the design of the town? There are three sorts of town houses, though with no hard and fixed limits between their divisions. There is firstly the house which is part of a group of houses but has separate heating and other systems and may have a private garden. A number of examples of this sort are given in the book—1, 55, 61, 125. Secondly, there is the flat, a house or a series of living and sleeping rooms generally on one floor as part of a group building with heating and other systems, even restaurants, libraries, places for physical training and workrooms, in common. Only three or four flats are given among the examples—49, 56, 60, 70—this special field of building being wide enough for a book to itself. Other than where roof gardens or garden terraces are planned, as in the group buildings of Corbusier, the open spaces round the flats, when there are any, are common property. Thirdly, there is the separate private house with a garden to itself—separate but with a very important relation to other private houses and to the complete town-design. This last division, taken as covering town and country houses equally, is the one I am interested in here. Of the normal country house there are good examples in 2, 8, 11, 19, 37, 47, 65, 82, 96, 100, and in addition to these a number of examples of the

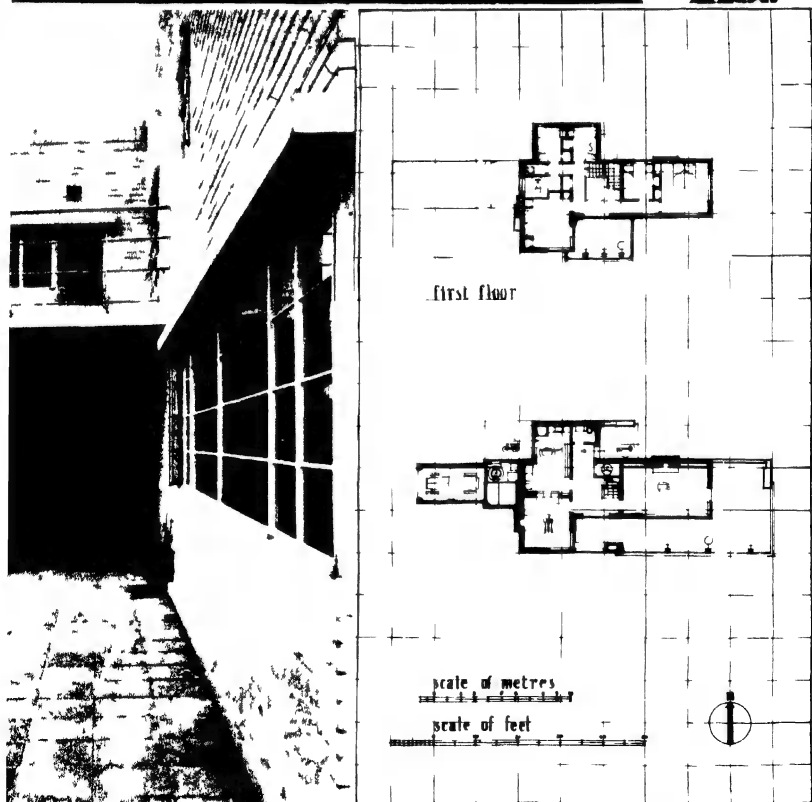
country house of a less regular sort, the summer or week-end or rest house such as 63, 72, 87, 111, 117, 127.

But to go back to the relation of the separate house to the town-design. The group building of flats is the outcome of the limits of the town, its size and systems of transport. Only by such building is it possible to put up housing for town-workers near to the centres of business. Such group building may have its stations, schools and places of amusement more cheaply than normally and the errors of bad housing may be stopped by the controlling body necessary for planning on such a scale. If we are to have towns, and not all authorities are in agreement on the need for them, the only possible way to get order into town-design is by this group building. That it may be done without the loss of the pleasures of living will, in the best examples, be seen from the gardens, playing-fields and swimming-baths. But in the interests of order and design there will have to be a certain limiting of private desires and impulses and this condition, as ever, will be chiefly undertaken by the poorer man. The town in the past has been the centre of art and government but no one will say that in its present form it makes possible the fullest and freest sort of existence. The natural pleasure of the townsman in flowers and plants may be limited to the care of a window box. But man's most normal idea of a place for living is the private house with a garden to itself and views over mountains, fields or water—a quiet private place where he may make for himself his designs for living. Clearly such a house comes only inside the range of the man with an income over the normal level. There is not enough room in England to make such houses possible for everybody, but most Englishmen have a desire for a house of this sort. So it is that England will go on being covered with poor attempts at the separate house till the time comes when there is a true design for the town and a good plan for the country.



Example 15

*Frank Scarlett (London).
Starlock, Rye, Sussex (1930-3)*
The garden front and the

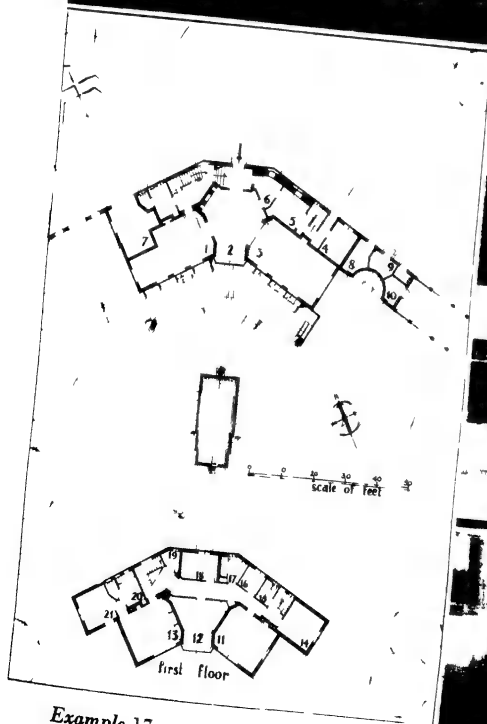
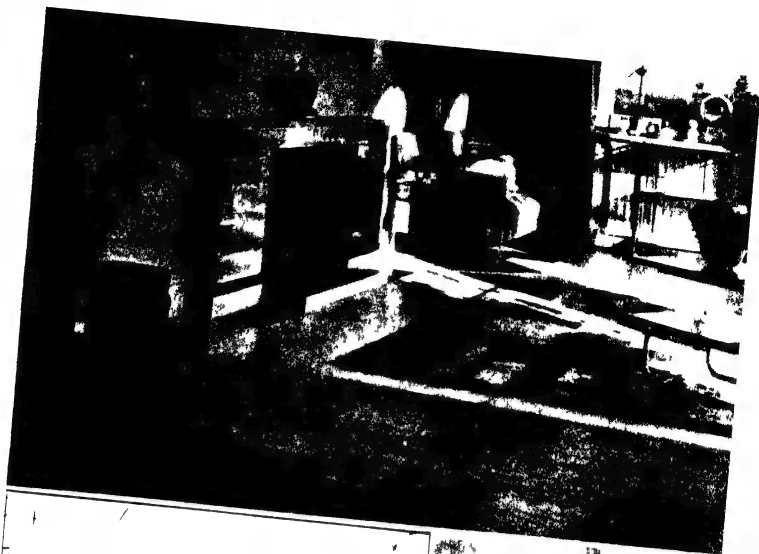


Sir John Burnet, Tait & Lorne (London).

III. FORM AND PURPOSE

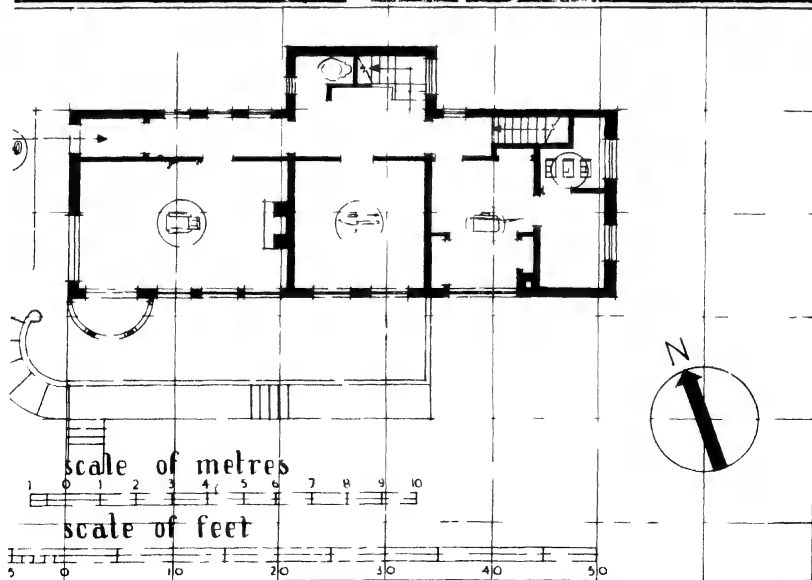
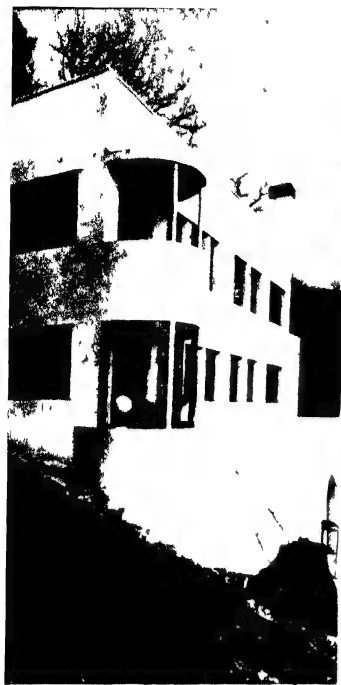
It is hard to make any clear statement about Form or Purpose. Purpose may seemingly take on any sense the architect gives it and Form be used in any connection whatever. That most things have a physical existence and a reason for that existence is so generally taken to be true that it is surprising to see the connection between form and purpose underlined so much as it is now—as if it were a sudden discovery. The present tendency to give so much weight to the *use* of a thing as the truest measure of its value is no new development. It would be safe to say that any architect of any time would give as the reason for his most complex and seemingly unreasoned ornament the fact that it had a very serious purpose and a most important use. Only in his argument it would be purpose and use of quite a different sort. At present they are taken simply as covering the operation-value of a building. That this is a very limited sense of purpose is clear, and it is open to question if it is possible for an art to be conditioned by such a theory and still be an art. “Functionalism”, to give this theory its name, is in its normal connection an engineer’s idea and the architect’s interest in it is an outcome of the division of the art of building into two separate fields. The comparison between the forms produced by the architect and the engineer in the past hundred years has been so much to the credit of the engineer that there is very good reason for the architect taking a page out of his book. But in taking over this theory of purpose and operation-value he is limiting himself unnecessarily, because the purpose of a private house is not simply physical as in a bridge or a store-house. The purpose of a private house may be to give cover and comfort to a number of persons or it may, in addition to this, be to make a stage for all their interests and pleasures. Naturally this is

dependent on the owner for whom it is designed, but in most serious examples it may be taken that the fuller of these two purposes will be the one in which the architect is interested. If this is so, then it is clear that Purpose as used in connection with Form in the heading of this division of the book is not this general purpose but has to do with the special needs of different parts. The complete building is for this reason an organization of parts designed for certain uses but not in itself limited by any special one of them, and its form the outcome not of conscious "functionalism" weighting one purpose more than another, but of a number of rightly designed parts in ordered relation to the complete unit. This is so in the normal private living-house, but in houses designed for special purposes—week-end, summer- and rest-houses—naturally their chief reason for existence will be underlined in the building. The reasons for the existence of the normal house, however, are so complex that the strong underlining of any special one of them would be almost certain to be wrong or at least to give a one-sided effect to the design. In this connection it may be noted that the general increase in window space in new houses, to take a part of the house which seems to be more strongly marked than was normal up to a year or two back, is based on very good reasons, being a natural development of the line of separate windows into the complete unit which the architect was ever attempting to make of them, and at the same time an expansion into their full use which had till now been limited by the needs of the structure. The change in the direction of building from upright to flat is interesting and probably the outcome of a number of very different forces. The laws of form are the same as they have ever been, but automatic observation of them does not necessarily give good form. Laws are, in addition, frequently coloured by one-sided theories. However this may be, the flat twentieth-century house, with its side-to-side direction underlined by balconies, bands of windows and terraces, is based as strongly on these laws as were any of the "Orders". Form viewed as behaviour has its clearest argument in the polished writings of A. Trystan Edwards, who



Example 17

Edward Maufe (London).
Yaffle Hull, Broadstone, Dorset (1)
The living room and the view



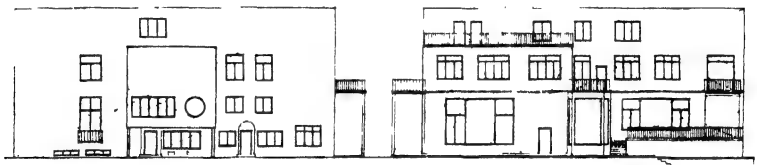
*William Walter Wood (London).
White Walls, Torquay, Devon (1931).*

gives three simple rules of the art of building—"Number", "Punctuation", and "Inflection". "Number" is the rule that any tendency to division of interest between two parts of a building has to be controlled by a third part which will be a point of rest, a balancing force, a centre of attention and so on. "Punctuation" is a process of design by which things are made seemingly conscious of their limits. "Inflection" is the rule controlling the relation of the parts of a thing to the complete unit, and the relation of that complete unit to what is outside it. Good as these rules might be in operation and as a measure of quality, they have much in common with the idea that the head is not complete without a hat. The rule of "punctuation" is specially open to attack. If to go against this rule is a sign of unfeeling design, then most of the examples in this book will have little to their credit—in company, it would seem, with Brunelleschi, whose unbroken arches in the Badia at Fiesole have as little "punctuation" as the smooth steel columns of Corbusier. The idea that a building-support has necessarily to be muscled like a leg, or a window to be upright like a man, is based on nothing better than the theory that the body is the normal example of form—a theory which the machine, with its quite different but equally pleasing forms, is quickly undermining.

That our pleasure in form is dependent on the degree to which it is physically in harmony with our bodies is supported, however, by a great number of examples, and has its earliest authority in the writings of Vitruvius, who said that true relation is got by taking a fixed measure, equally for the parts of a building and for the complete building, by which the system of balance is put into operation; because without balance and relation no building will have a regular plan; that is, in other words, the relation of the parts of a good building will be based on the relation between the parts of the beautifully formed body of a man.¹ This "empathy" as it is named—this putting forward of ourselves into the forms of things and giving them feelings which are in fact ours—is at the back of the theory that building-forms are best when they

take the body as their example. The error is in taking an oversimple view of this process. If approval is to be given to the forms which most readily give an impulse to this process, then it would seem that natural forms—trees, animals, flowers—are better art than anything made by man. To make art dependent on natural forms in this way puts a serious limit on it, and is the cause of overmuch ornament in the attempt to give buildings a “natural” feeling. But architects are now coming to see that the roots of all physical form are in simple geometry. Even the strongest supporters of “natural” building would be in agreement with this statement but they would not be in agreement about the degree to which it is necessary for the architect to keep to fixed rules. To them the straight lines and square-cut masses are in need of a certain conditioning to make them more in harmony with the softer and rounder forms of the body, and the relations of part to part in need of adjustments to make them more readily taken in by the eye. But in the same way as the ear becomes used to certain harmonies which at one time seemed quite out of harmony, so the eye becomes used to taking pleasure in relations which in earlier days were looked upon as rough and unpolished. In this connection twentieth-century design is like twentieth-century music and is the sign of a development in our feeling for form. Less conditioning and adjustment are necessary to make forms ready for our experience, and so it is that the architect to-day makes use of the simplest and least ready-made forms in his designs. This is not to say that there will be no rhythm in their use. Rhythm is dependent on measured order, and order comes from a guiding idea, not a use of fixed units. Corbusier has said that the selection of the guiding line is the point of decision in design. How this rhythm has been attempted by Joseph Frank in ex. 48 and Corbusier in ex. 65 may be seen from their use of guiding parallels. Looked at in this light it is clear that the present-day house as a unit in space is dependent for its effect completely upon itself, and that the values attempted by it are building-values and not those rightly coming in the field of pictures or fiction. If this is part

of purpose then the twentieth-century house is consciously purposed to a degree not to be seen in buildings of any other time. Purpose in this sense may be said to be the right use of materials for producing a given effect. In the details and apparatus of the house the part played by purpose is clearer to see and in less need of reasoned support. A point to be made, however, is that such materials as metal, cellulose and glass have a quality which, in



House in Vienna (example 48), by Joseph Frank and Oskar Wlach



Les Terraces, Garches (example 65), by Le Corbusier and Pierre Jeanneret

smooth, machined polish, is certainly in harmony with the sort of design covered by the name "functionalism". The danger in all theories is their tendency to become a prison for the mind. With architects, as with all men of art, there are regular reactions against the hard and fixed rules of theory upon which the work of groups and schools is naturally based. But whatever our point of view on theory, the important thing to keep in mind is that the art of building is a system freely based on simple laws and a unit of measure, the framework without which it would not be possible for it to be the mother of the arts.

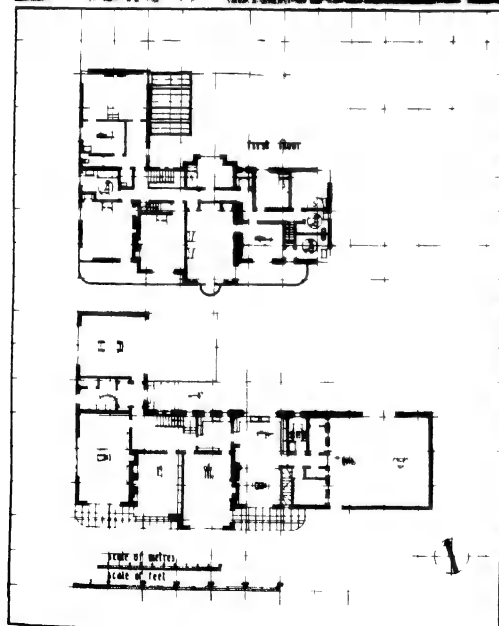
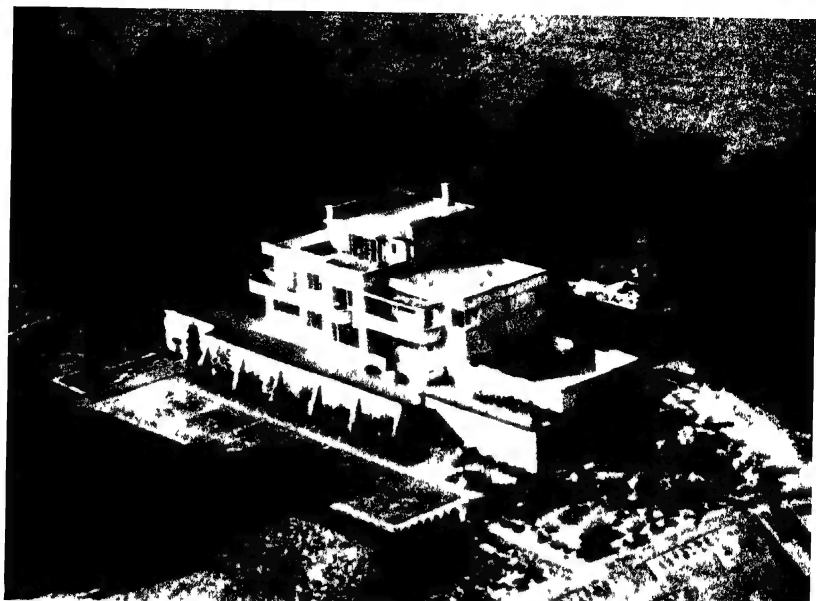
IV. PLANNING AND BUILDING

A. PLAN AND POSITION

The design of a house is dependent upon what is made possible by the purposes of its rooms, the separate parts of its plan. The relation of these parts is conditioned by the price and form of structure, the area of land and its direction, weather, views and natural details, the needs and taste of the owner and the knowledge and art of the architect. These are certainly complex conditions which make possible an unlimited number of designs.

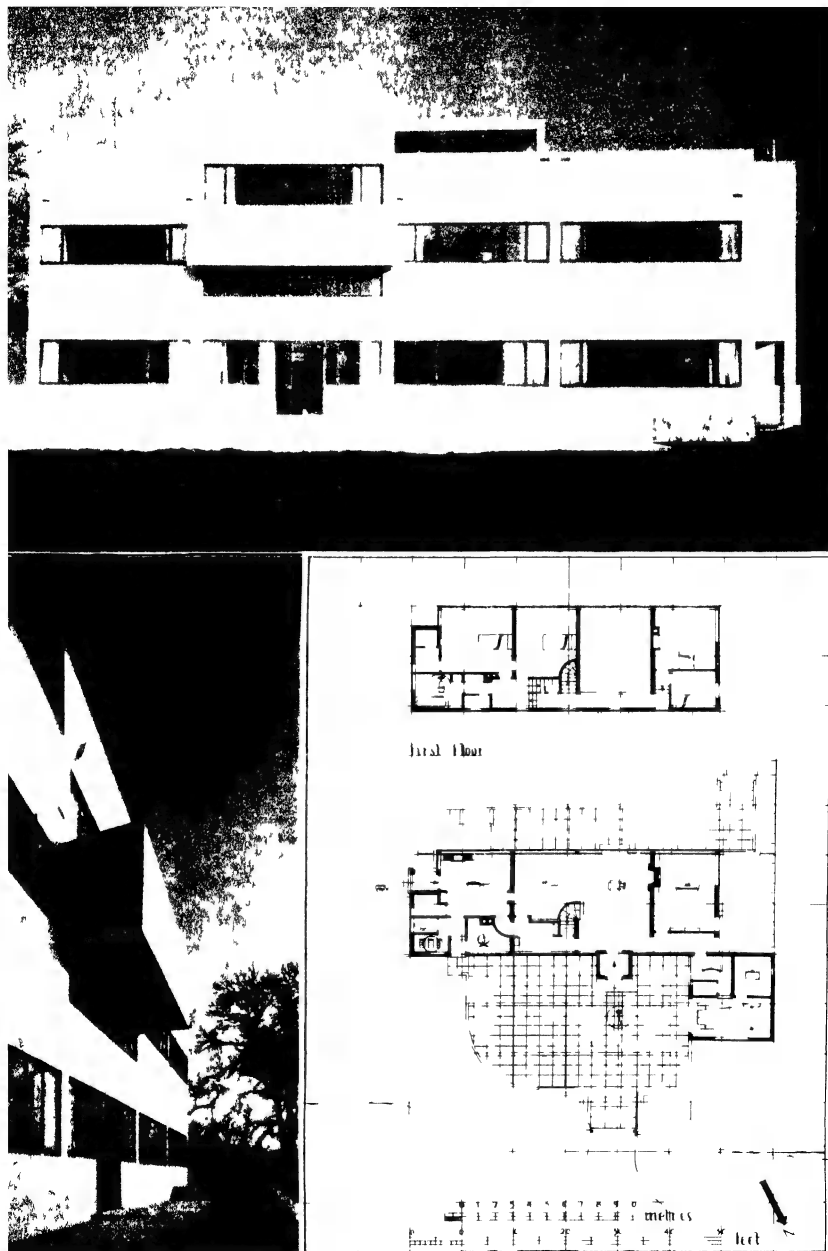
The plan has been changed and goes on changing with our new needs and knowledge—freer planning for the freer living and general feeling for the open air, and because of the forms made possible by new materials and structures, but in addition more complex because of the increasing amount of apparatus to be housed. The detailed effect of these conditions will be best seen from the discussion of the different rooms of the house in their relation to the examples in this book. These rooms are of two chief sorts—those for the pleasures of living and those for the needs of living. For the pleasures of living there are the living-rooms, music-rooms, libraries, playrooms, terraces and roof-gardens. For the needs of living there are the rooms for meals, the cooking-rooms, boiler-rooms and workrooms, bedrooms, bathrooms, dressing-rooms and so on.

The centre of the house is the living-room, a name given to the present-day room which in some of the most open plans is a room for meals, library, music-room and workroom all in one. Naturally



Example 19

John C. Procter (Leeds).
 Kirkby House, Kirkby Overblow, Yorkshire (1935)
 View from the air and views of the road to the house

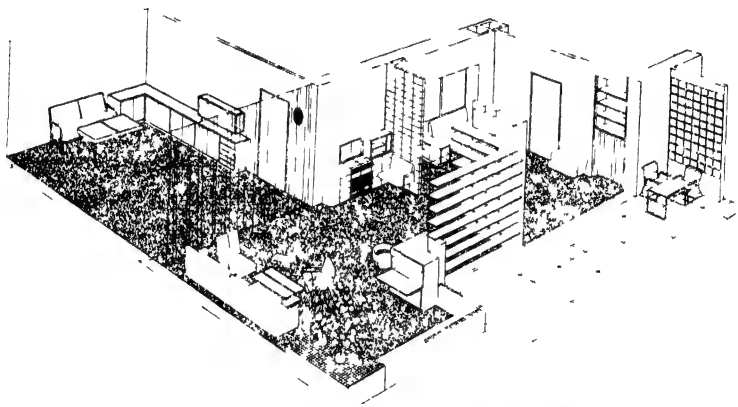


George Checkley (Cambridge).
Thurso House, Conduit Head Road, Cambridge (1932).
Two views of the south-west front

all the house is for living, but the name does give the idea of a centre of living which in fact it is. I have given examples of living-rooms by Edward Maufe (ex. 17), Raymond McGrath (ex. 24), Wells Coates (ex. 32), Hanson, Tomkin and Finkelstein (ex. 35), Howe and Lescaze (ex. 41), Neutra (ex. 43), John Moore (ex. 44), Welzenbacher (ex. 47), Theiss and Jaksch (ex. 51), Weiser (ex. 52), Reichl (ex. 53), de Koninck (ex. 54), Jasinski (ex. 56), Corbusier (ex. 66), Raymond Fischer (ex. 69), Lurçat (ex. 70), Schramm (ex. 73), Volkart (ex. 86), Margold (ex. 89), Miës van der Rohe (ex. 90), Zollinger (ex. 95), Rading (ex. 98), Pfau (ex. 99), Scharoun (ex. 100), Kozma (ex. 104), Farkas (ex. 107), Antonin Raymond (exx. 112, 118), Tsuchiura (ex. 120) and Hubacher and Steiger (ex. 127). These living-rooms are of different forms and sizes, but all are in some degree rooms designed for mixed needs and pleasures. The most important thing in this room is the seating, from the placing of which heating, lighting and airing take their form—because as the living-room is the centre of the house, so the seating is the centre, or group of centres, of the living-room and will have a necessary amount of view and comfort. There is a tendency to make much of this seating a part of the structure of the room, as may be seen from the examples by Howe and Lescaze, Scharoun and Farkas. In the example by Scharoun the seating is so much more than a centre that it makes the freest use of the room possible, and for that reason the space is designed for a general distribution of the electric and natural lighting. The living-room may be used for reading, writing, music or taking meals, and the parts so used cut off from one another by screens and folding-doors so that when necessary the complete space may be made one. At Bell Moor (ex. 24) the division between the parts of the room is made by columns and a curtain, in the Scharoun house (ex. 100) by a glass wall, in the Tugendhat house (ex. 90) by fixed screens of polished limestone or wood. The living-room in the Kozma house in the Rosenhügel (ex. 104), the camera-picture being of the part for meals only, is a very good example of a living-room for a number of purposes. The plan and the black-and-

white on this page give the arrangement of its furniture. The part for meals is cut off by curtains. There is the living-part itself with the fireplace, library shelves and winter garden, and this again is cut off by curtains from a hall with folding-doors on to the terrace, hall and terrace together making another outdoor living-place (ex. 105).

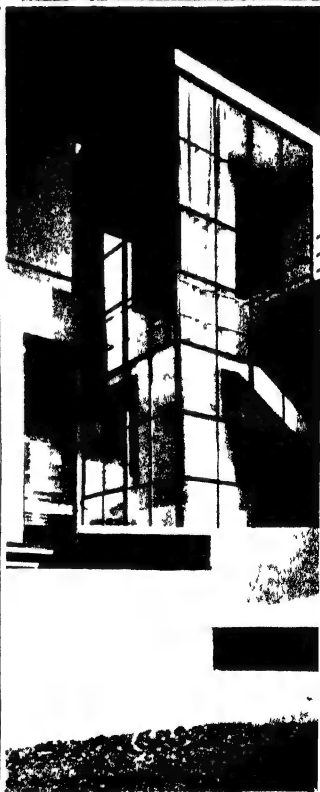
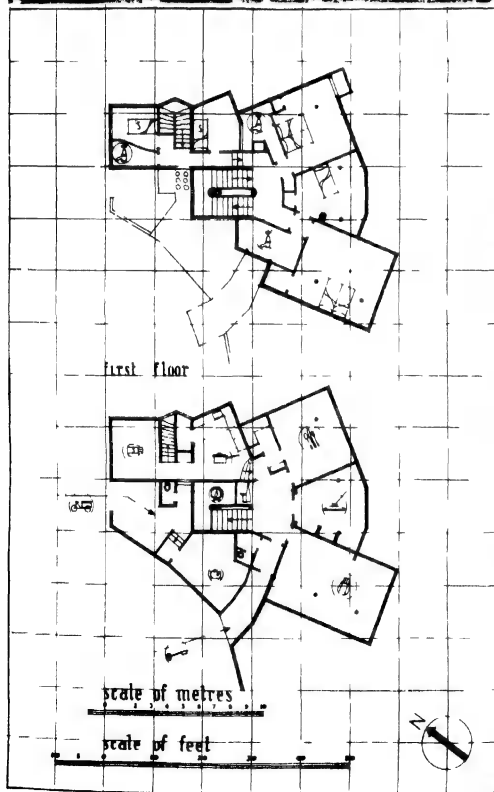
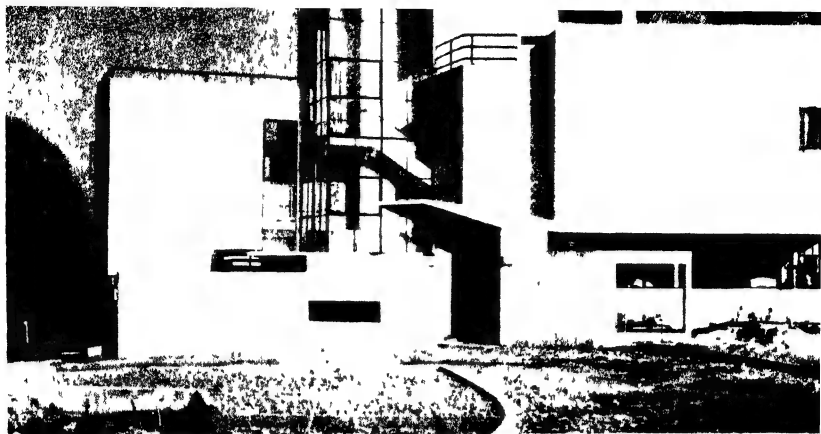
Some of the most interesting living-rooms are those which are two floors high, and so having space where it is most desired. Sometimes this may be done cheaply by making hall and steps a part



Living-room by Kozma (example 104)

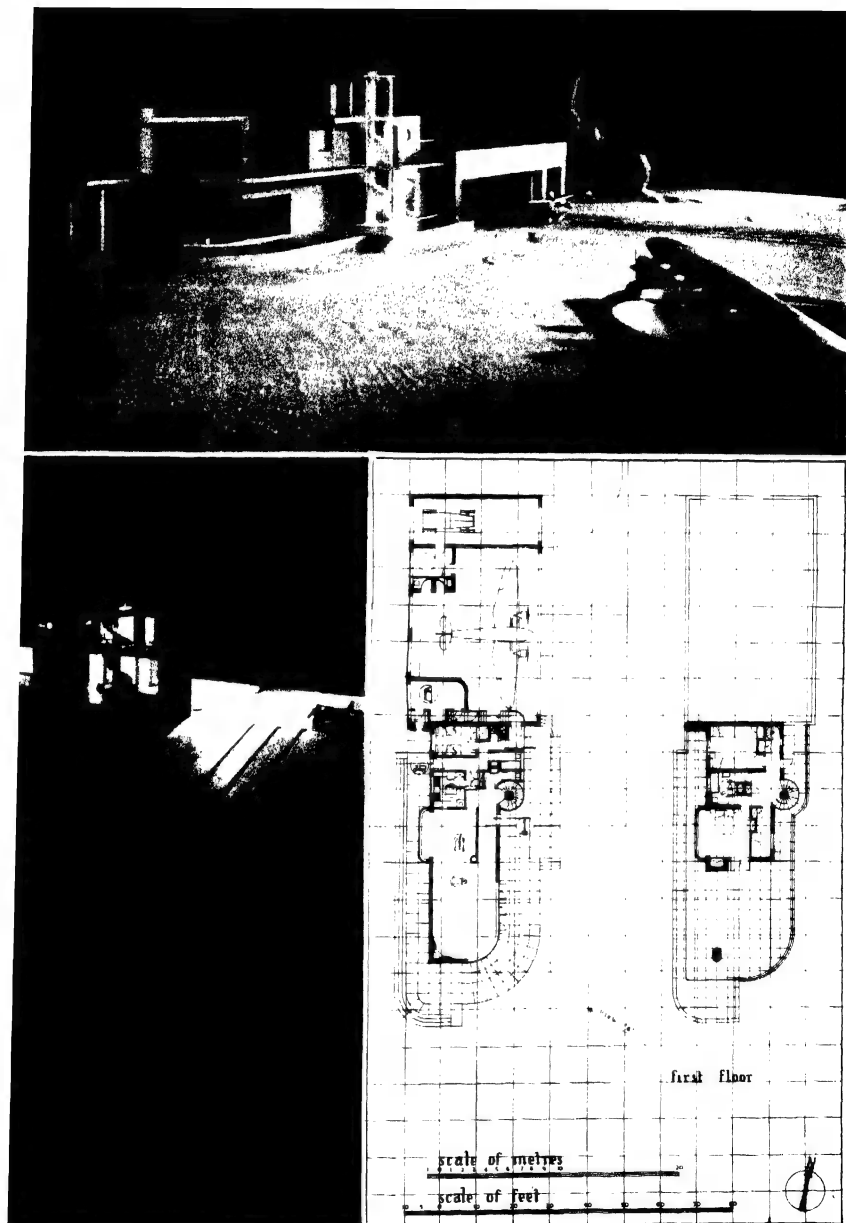
of the living-room. Some two-floor examples are the living-room in the house by Checkley (ex. 20), in the house by Frank and Wlach (ex. 48), in the house by Havlíček and Honzik (ex. 58), in the house by Rading (ex. 98) and in the two houses by Antonin Raymond (exx. 112, 118). The relation of the living-room to garden and views is more important than for any other part of the house. Exx. 37, 41, 43, 90, 118, 120 and 127 are first-rate in their attention to these pleasures.

Though the room for meals is now generally a part of the living-room, the separate room is necessary in a house of much size. Possibly the best example of a separate room for meals is in the House Streiff by Zollinger (ex. 93), where a round room has been designed with half its wall an unbroken band of folding windows



Example 21

A. D. Connell and B. R. Ward (London).
Pollard, Grayswood, Haslemere, Surrey
View from the west and the glass-walled



ample 22

Raymond McGrath (London).
 Rudderbar, Hanworth Airplane Field, Feltham (1932).
 View from the south-east and air-view of the runway to
 the airplane house.

opening over the garden. It is interesting that in Finella (ex. 10) the special room for meals is not frequently used. Its place has been taken by the south half of the living-room because of the greater pleasures of its space and form—and its special quality for music when the middle copper doors are folded back. When there is need to make use of every inch of space a food opening is sometimes made in the wall of the room for meals (as in ex. 95). This is not a good arrangement if there is no space separating the cooking-room to keep out the noise and smell of the food when it is being got ready, but it does put an end to unnecessary journeys, which is important in a house with only one or two servants.

Dancing and music, other than the machine-made sort, have not been given great attention in the new house. The living-room, which is generally the music-room in addition, is frequently not designed with a view to its sound qualities, though the science of sound now gives us full knowledge of the desired effects. But to get the full value of sound it is necessary for the room to be designed chiefly for that purpose, using the right materials in a building of solid structure. A special music-room has been designed in the brick house by Professor Körner (ex. 76), and in the houses by Frank and Wlach (ex. 48), Armand Weiser (ex. 52) and Erich Mendelsohn (ex. 84) there are rooms in which music-playing has been taken into account in the design.

The cooking-room is the machine centre of the house, and in the last six years there have been quick developments in the design of all the apparatus which goes into it. There has been much talk about “die Frau als Schöpferin” and without doubt women have had their effect on the developments which have come about in the control rooms of the house. The servant question in America and in countries like Holland and Denmark did much to make all women take an interest in the number of steps they had to take in the cooking-room—a serious enough business, now good copy for the newspapers, which is one sign of the important change. Designers like Gropius in his Dessau houses, Oud in his Weissenhof houses, and Breuer in his apparatus for the Bauhaus have done

very good work in this field of house-design. In this book good examples are given of cooking-rooms by de Koninck (ex. 54) and Zollinger (ex. 94). The plan of the cooking-room in the Honolulu house by Walter Goodesmith (ex. 25) is an interesting division of the room into its natural parts—one part for cooking the warm foods, another part for the cold foods (on this plan the ice-box is marked 0° C.).

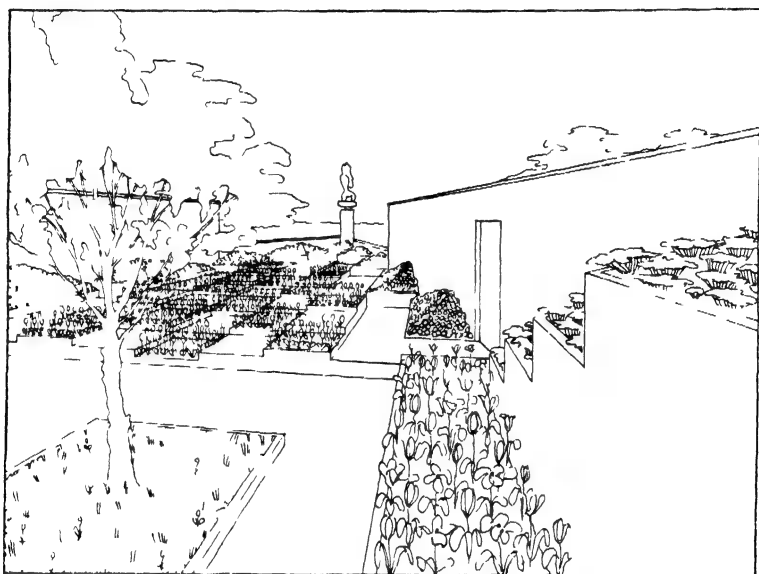
In England the designing of the bedrooms in the house has been given least attention. Ideas of comfort took a long time to get over the invention of the metal bed, first used in England in 1860. In the last five or six years we have been dependent on France, America and Germany for developments in design. The tendency at present is to make the bedroom more of a living-room, sometimes with a writing-table and a small winter garden, and to have it planned wherever possible with a sleeping-terrace, dressing-room and bathroom as a self-dependent series. A bed which may be readily moved about is still the best, though it has to have a side table, reading-light and telephone. The American folding bed has been used in Europe in small-scale planning for cheap houses, but such narrow limits of space are far from being as good as they seem from the statements made by "Minimum"—or "least-space"—architects. A better way is for the bed to be designed so that it may be used as a seat in the daytime. The separate hanging-cupboard is now almost a thing of the past, its place being taken by cupboards which are part of the structure with free coat-hangers for the airing of clothing. An equally important part is played by the dressing-table with looking-glass and lighting, and a number of designers have given us good examples of this furniture unit. Examples of bedrooms and dressing-rooms are given from the work of Wells Coates (ex. 32), Schindler (ex. 38), Fischel and Siller (ex. 50), Jasinski (ex. 56), Schramm (ex. 73), Volkart (ex. 81), Pfau (ex. 99), Kozma (ex. 105), Antonin Raymond (ex. 116) and Garcia Mercadal (ex. 125). The bedroom in the house in the Rosenhügel by Kozma is possibly the most interesting example. The two separate beds are at opposite angles of the room with

fixed screens and a curtain between them. (Certainly as good an example of "delicate" placing as any in the book.) In the chief bedroom of Scharoun's house (ex. 100) there is a floor-to-ceiling screen at the head of the two beds, between which an S-form curtain may be pulled. The beds have reading-lights and bedside tables.

Not the least important parts of a house are the sun-rooms and terraces joining living-room and bedrooms with the open air and the gardens outside. Good examples of these are by Wijdeveld (ex. 62), Corbusier (ex. 65), Bruno Taut (ex. 80), Tsuchiura (ex. 119) and Salvisberg (ex. 126). The sun-room is made a special point of the house in Wiesbaden by Marcel Breuer (ex. 106). A first-rate development in the private house is to be seen in the free relation between playroom and roof-garden in Amyas Connell's *High and Over*. In France and South Germany the roof-garden is more commonly to be seen than here in England where its good points have still to be valued by the architect. The roof-garden is warmer at the fall of the year and in winter than the earth-garden where the effects of rain are more serious, and an arrangement of screens makes it possible for it to be freely used for sun-bathing and for rest with more quiet and comfort than is common in the open air. A point made in this connection by Corbusier is that flowers come to a better growth on the roof-garden than in any other place. The best examples are French. Two of first-rate quality are to be seen in exx. 66 and 67 by Corbusier and 68 by Lurçat.

The placing of the house in its garden and in the countryside is an art to which in the past special attention was given chiefly in England and Japan. The garden in the East has been put into line with the new building, as may be seen in the work of Antonin Raymond (ex. 112) and Horiguti (ex. 113). In England there are only one or two houses which have gardens of any special interest as examples of present true feeling for simple regular forms. The Persian, Spanish, and Italian gardens of the past have given the greatest impulse to present-day garden design—a specially

interesting garden being that of the Generalife at Granada with its long waterway arched with curves of playing water. Water in a garden is like glass in a room. Beautiful use is made of water by Miës van der Rohe in his Barcelona Pavilion (ex. 85), where an outside wall of black glass is designed to give back a dark picture of the trees and leaves. Small as it is the most noted of present-day



Garden at Hyères, by Gabriel Guevrekian

gardens is at the house of the Vicomte de Noailles in Hyères by Mallet-Stevens. This little three-sided walled garden was designed by the young Persian architect, Gabriel Guevrekian. It is planted with two Chinese orange trees and squares of flowers between squares of black, red, grey, yellow and blue mosaic. Placed at the point of this garden overlooking the sea is Jacques Lipchitz's *Joie de Vivre* slowly turning on its base.

PLANNING AND BUILDING

B. MATERIALS AND STRUCTURE

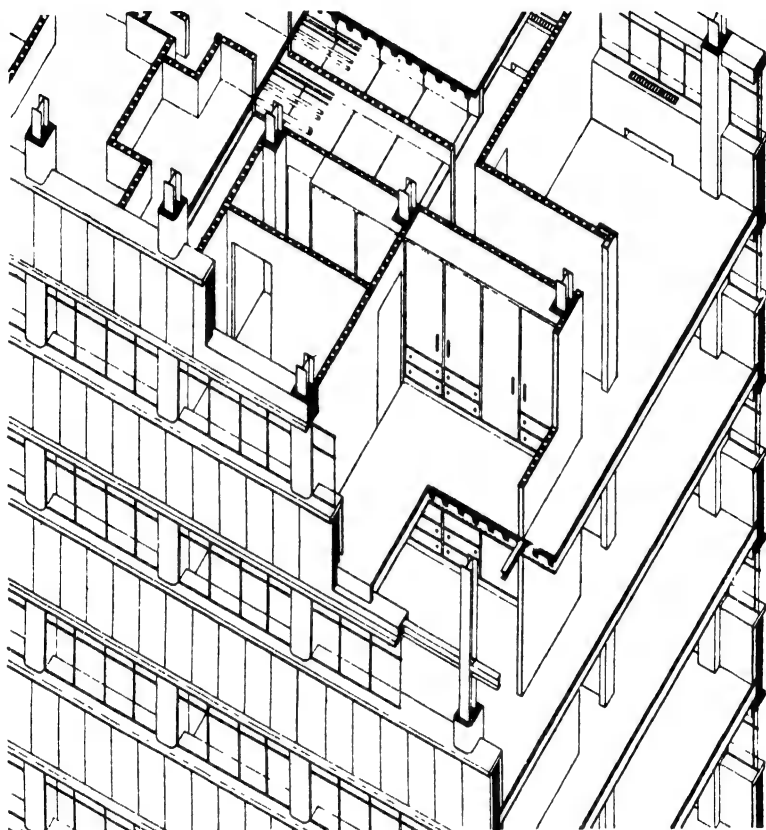
Present-day houses may be grouped in two important divisions, houses of solid wall structure and houses of frame structure with curtain walls. Mass concrete, the most solid form of building, has given place to the steel-concrete frame so that to-day brick is still the most important solid wall material. Design in brick, however, has undergone changes which are chiefly the outcome of framing and it is not uncommon to see plastered brick structures which, with the use of steel-concrete beams, have the effect of a framed building. Self-conscious attempts of this sort are false, however good in form they may be. The most important changes in brick structure are in the direction of less weight and greater conditioning against heat and wet. The hollow wall and bricks of cell structure are developments on these lines. The attraction of good brickwork has not been overlooked in England and Holland as may be seen from exx. 9, 26, 62, but the most general tendency at the present day is for an increasing use of smooth, unbroken wall-faces in place of small units of brick and stone, and we frequently see the brickwork smoothly covered with plaster or faced with limestone as in exx. 84 and 96. It is the steel or steel-concrete frame structure which has made possible the greatest changes in the planning and general design of the house, a frame with its curtain walls of concrete straight from the formwork or of units of concrete or brick. We have not got very far with metal-faced frames. The wood house comes in the group of frame structures and, when the danger of fire is overcome by processes well tested to keep it safe, is a material of special attraction for the country or week-end house, as in exx. 38, 42, 78, 89, 117 and 127.

The facing of the steel or steel-concrete structure to which so much attention has been given in the last year or two is in need of most serious care in present-day design. Science and industry have made possible an unlimited number of materials which have still to be tested and the testing is unable to keep level with the unending increase of new developments. Machine-power has been the cause of an almost complete change in the architect's outlook and a desire for a higher degree of quality in the materials themselves. The unbroken spaces of wall which are so important in his designs make a first-rate quality of work specially necessary, bad work being quickly seen in the cracking caused by any move in the structure. There are a hundred and one dangers to be looked after in the facing of a building when the skin is put on to the frame. Room has to be made for the systems of piping necessary to the house so that the walls are not broken into, and it is clear that a clean design will not be possible if these systems are not ordered in relation to the structure from the start.

Because of the short experience we have had of such numbers of new materials it is now more necessary than ever for great care to be taken in making the structure a natural growth of them. In the design of the house we are moving more and more in the direction of a structure chiefly made up of well-tested units, not only doors and windows but the parts which go to make up the structure of the walls, floors and roofs. The effect will not be a limiting of the design but an expansion based on certain knowledge of the material units. A move has been made by most of the building industries in the direction of mass-made units. The Mopin system which has been put into operation in the flats at Drancy makes it clear that the time taken in building is made very much less by the use of ready-made units for the structure, twelve months being cut down to as little as three. In Germany there has been a great amount of work in mass-produced housing. There have been a number of competitions such as that by "Bauwelt" in 1931—"Ein Normversuch der Wohnung" (an attempt at mass-produced housing) and the Berlin Competition

in the same year, "Das Wachsende Haus" (the house designed for expansion).

But it is in America to-day that the idea of the mass-made house—"Prefabrication" is the name given to the process of making



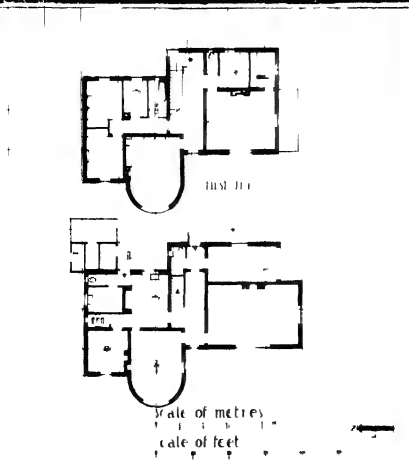
Frame Structure

Detail of a building designed by Raymond McGrath

the complete structure in the works—has its strongest supporters. Serious attempts in this field have been made by Howard T. Fisher, architect to General Houses, Inc., of Chicago, a group supported by thirty-five companies. The work of Buckminster

Fuller, the Bowman Brothers and other architects has been noted in this connection in another part of the book. The Fisher houses are made of steel plates produced by the Bethlehem Steel Corporation, but different materials have been used by other companies. Concrete is certain to come into wider use as a mass-produced unit when the formwork (the wood or steel mould used to give concrete its form) is looked upon as an instrument of value in a complete system of structure.

Any account of the materials for present-day inside design will naturally not be complete because of the developments which science makes from day to day. The greatest number of these materials are machine-made. They may be listed under floors, walls and windows, furniture and woodwork, and metalwork. Among the natural flooring materials are our old friends wood and stone. Wood is still best used in long boards and stone in good-sized units. Other natural materials, which, however, have to undergo a number of processes before use, are rubber and cork. Rubber is clean and quiet and may be made equally well in bright or delicate colours. Cork, in its natural brown shades, is one of the best materials for cooking-rooms and bathrooms. Oilcloths with a base of cork-dust or cellulose, made up in rolls of different sizes, are simple in use and pleasing in colour effect. New materials which are increasingly being used are "terrazzo", a concrete mixed with limestone, which is put down in liquid form and polished when solid, and the mixed forms of magnesia substance with wood-powder, cork-dust or asbestos, put down in the same way. Under materials for walls and windows as separate from wall-structure are the different plasters and paints with a lead, oil or cellulose base and, in addition, materials in board form such as cellulose, glass, metal, wood and layer-wood. Glass, other than the clear substance commonly in mind, may be had in a great number of solid colours for use in bathrooms, cooking-rooms and other parts of the house. Some of the more interesting uses of glass have been made by Miës van der Rohe. In connection with window glass an important discovery is the invention of a glass which lets the healthy



Example 23

*R. D. Russell and Marian Pepler (London).
Lobden, Upper Colwall, near Malvern (1932).
The west front and a view from the south.*



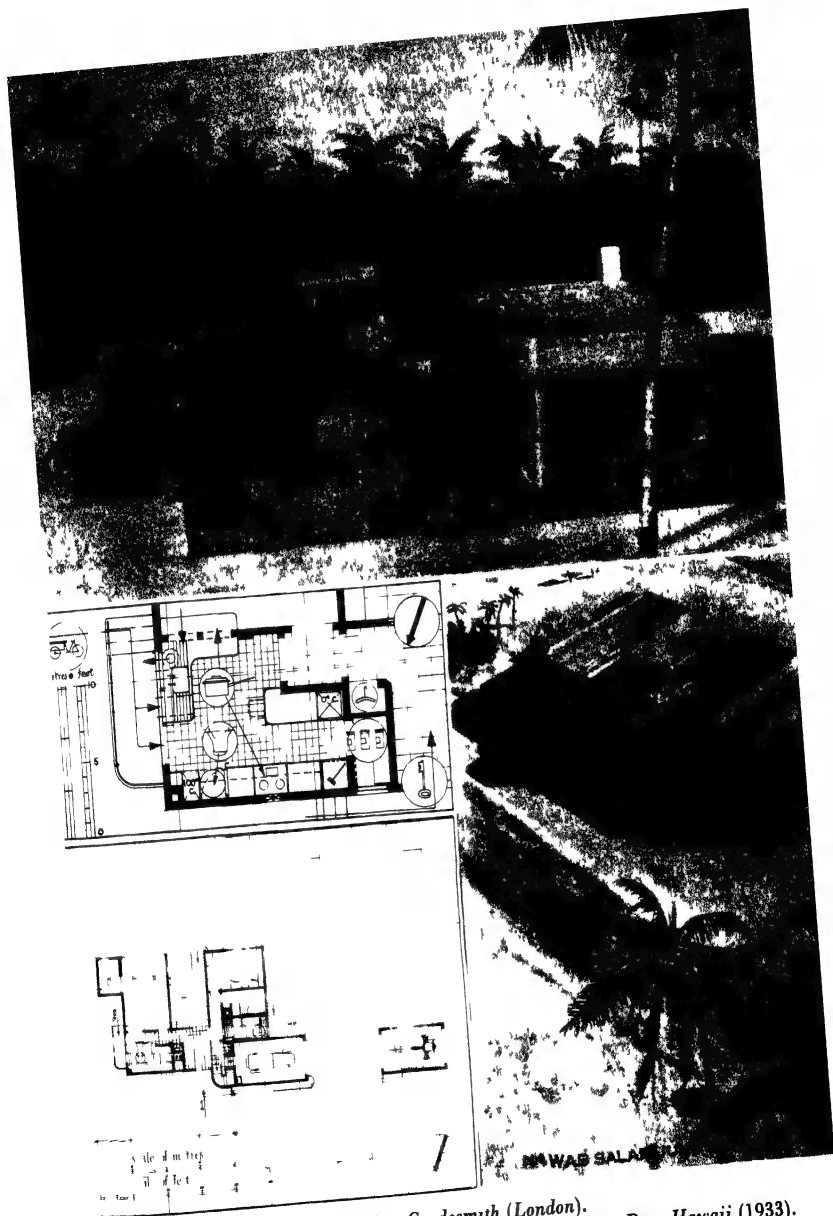
rays of the sun into the room unchanged. The greatest development in furniture design and woodwork generally is in layer-wood which may be produced in boards up to 5 feet by 15 feet and from $\frac{1}{4}$ to 2 inches thick. The best furniture designs in this material are those of Alvar Aalto, the Finnish architect. The invention of steels and aluminiums which are safe against acid attack has been the cause of our present increased use of metal in the house where upkeep is now an important question. Metal, in addition, is used for door-frames, and doors and cupboards which are part of the structure, and steel windows are in common use all over the earth. No further detailed account of the materials and structure of the house is possible in the space of this book. The reader may get a complete picture of the relation of the materials and structure to the form and purpose of the house from his or her observations of the 128 examples themselves and from the details which are given of every architect's work. But by way of ending it is interesting to take note of the fact, a sign of the present tendencies in building, that of the houses in this book, representative of the best twentieth-century work in the different countries, fifty are brick structures, half of them British; thirty-five are steel-concrete, among which are all the six French examples, seven of the twenty-nine German examples, seven of the thirty-five British and four of the six Japanese; and there are ten steel-frame houses, four of which are German.

PLANNING AND BUILDING

C. APPARATUS

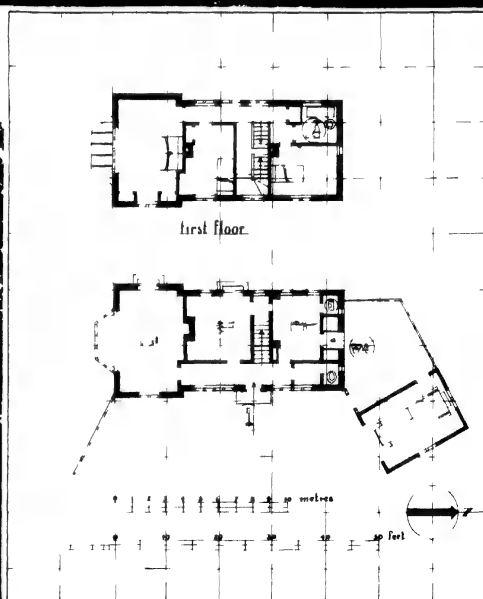
It will be clear from the accounts of the different examples that the private house of to-day, in the degree to which it makes use of automatic apparatus, is as smoothly running an organization on a small scale as the great hotels in our important towns. Heating, lighting, air-conditioning, cooking and washing have all a special system upon whose smooth operation the complete house is as dependent as a machine on the harmony of its separate parts. The purpose of these systems is to give the greatest possible degree of physical comfort and for this reason to be in need of the smallest amount of attention possible. The wide distribution of electric power and the equally wide range of its use are the two facts on which the present increase of automatic apparatus in the house is based.

Apparatus is of two sorts—that which is part of the structure, heating, lighting and air-conditioning systems, and that which, though designed for the structure, is in special units, the cooker, washing machine, ice-box and so on. Heating by electric power and gas has had a great effect on the development of inside planning and design. The ornament of the open fireplace so common in Gothic, Elizabethan and Renaissance houses is now a thing of the past and the simple heater or the electrically heated wall has taken its place. Automatic heating, like a number of other important inventions, did not at first have any great effect on design. Pipes were taken through and heaters put wherever they would not be in the way. That the harmony of beautiful rooms was broken in this way was only natural. Nothing made it clearer than did the invention of automatic heating how little relation



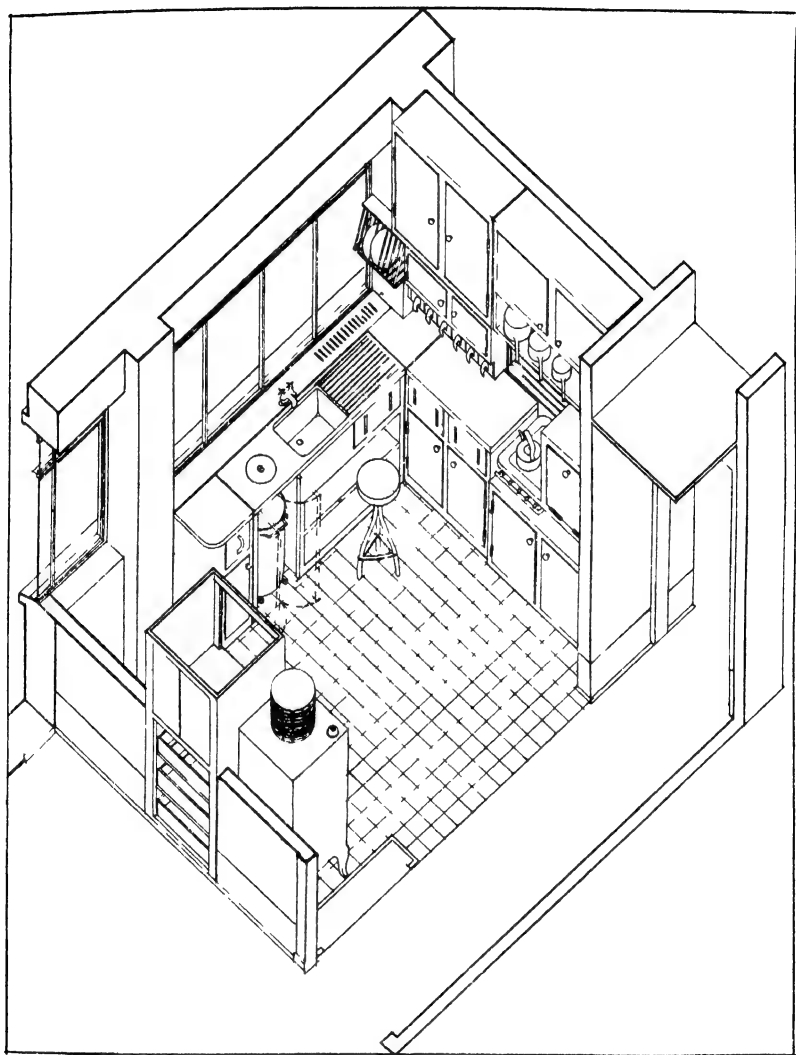
Example 25

Walter Goodsmuth (London).
House overlooking Honolulu Bay, Hawaii (1933).
View from the south and air-view from the north-
west.



ole 26

*C. H. James (London).
17 Sherrards Park Road, Welwyn Garden City (1933).
View from the east and view from the south-west.*



Apparatus for the cooking-room
Architect: Raymond McGrath

there was between science and the arts in the nineteenth century. The days of the open fire were days of cheap coal and wood. The heating system of to-day, with its coal or oil-fired boiler or its electrically heated water, is based on cheap producing power and a regular output. In the best systems nothing of the apparatus is to be seen—the pipes are in the walls, ceiling or floor, or the air itself is heated as with the American air-conditioning systems. In addition, air-conditioning makes it possible for the house to be kept cold in summer. The ice-box, in which air is conditioned, is an example on a small scale of what the air-tight structure of the house might be with a smoothly working air-conditioning system keeping the air warm or cold or dry to the right degree. But the use of air-conditioning does not make natural airing, where and when weather conditions are right, unnecessary or less to be desired. The wide windows made possible by these heating systems are one example of the effect of automatic apparatus on the design of the house. Electric lighting has had an equally important effect. The lighting system is now frequently a part of the structure itself. Its qualities are dependent on the placing of the light-unit—giving a light open to or screened from the eye. Cooking, cleaning, washing, ironing are generally done in the twentieth-century house by electric power, and the apparatus for these purposes is as common to us as fire-irons and feather-dusters were to our mothers. It is still not frequent to see great windows like those in the Rupenhorn house (ex. 84) and the Tugendhat house (ex. 90) moved by this unseen power, but the future has great changes in store for us and apparatus which will certainly make living simpler for the house-owner will make it even more complex for the architect.

PLANNING AND BUILDING

D. FURNITURE

The furniture of the true man of to-day is as different from that of his father's father as the automobile is from the carriage and the airplane from the gas-bag. The number of such men, however, is still small and to most of us furniture is best when it is all but ready for the museum. Corbusier says something on this point:

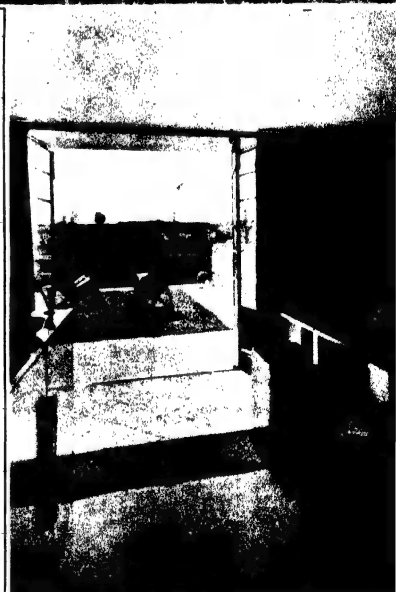
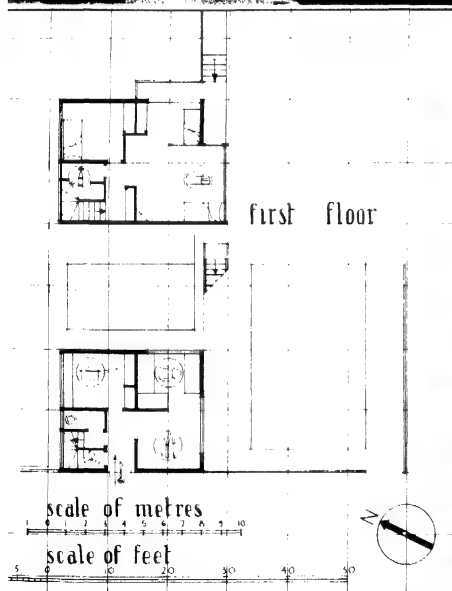
"If there are still any Breton cupboards in Brittany it is because there are still Bretons there, far away and unchanging, working hard at their fishing and farming. It is not right for a man of good position to have a Breton bed in his Paris house; it is not right for a man of good position and the owner of a covered automobile to take his rest in a Breton bed, and so on. We have only to get a clear idea of this to see the effect. But unhappily to be the owner of a great automobile and a Breton bed is quite common."¹

Though we may have new desires, not one of our important needs is changed and the uses of the bed, the table and the chair are still the same—they are still designed in relation to the comfort of our bodies in work, amusement and rest. Developments in science and changes in the structure of society have been responsible for an equal change in the design of furniture. There has been an increase in the desire for comfort because of the freer conditions of the private person and in the chair the seating-position has become less stiff with the downfall of those rulers of society who were at one time taken to be the authorities and examples of good behaviour. The story of the common man might well be seen in the slow sloping back of the chair. Now, when space and work are equally dear, the great sideboards of the old days have given way to fixed and little-seen parts of the structure of the room. Now

that we have fixed furniture the only moving units necessary are one or two chairs, a table, beds, and a light for reading.

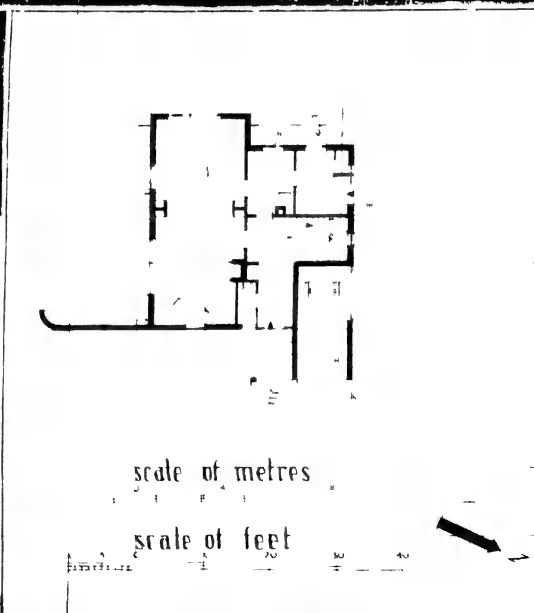
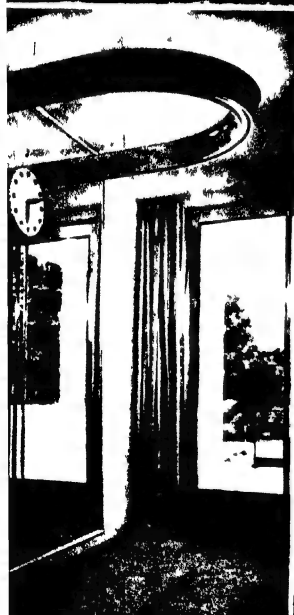
Furniture to-day is produced by the machine. The handworker made an attempt to keep up with the wheels of Birmingham which by about 1860 were turning out detailed copies of high-priced furniture with ornaments in moulded paper, but even with such strong and warm supporters as Ruskin and Morris at his back he had no chance against them. Though it is uncertain if any designers before 1900 gave serious thought to the machine as a producing power they did, by their attack on the tricks of tradesmen, make the way ready for good mass-made furniture. The best furniture designers have generally been architects. Philip Webb was making very good designs for furniture as early as 1860. Later, a measure of good taste was given by Voysey, Ernest Gimson, George Walton, Ashbee, Baillie Scott, Lutyens and Mackintosh. Their furniture was simple and in clear relation to its purpose, so that a Voysey or a Walton chair of 1900 is still in harmony with our times. In England the men in the trade were slow to see the value of these designers who after all were only a very small number. There was all the past to make copies of—and they were made. It was simple. However, Sir Ambrose Heal made some sudden changes in his father's works in 1897, and had a healthy effect on certain stretches of Tottenham Court Road.

In Germany the Deutsche Werkstätten were started in 1898. It was the rule that no copies were to be made of the furniture of other times and other places and a body of experts was formed, among whom were Bruno Paul, Heinrich Tessenow and Adolf Schneck, to make designs for the best sort of mass-made furniture. The Vereinigte Werkstätten were started in Munich in 1897 and has been responsible for ship furniture on the "Bremen" and for the carriage work of the Mitropa railroad. Among the first to give their attention to the forms special to the machine were Bruno Paul, Henri van de Velde and Adolf Loos, but they did not get far in the direction of fixed forms for regular needs till the



Example 27

*Colin Lucas (London).
The Hopfield, St. Mary's Platt, Kent (1933).
The footway to the house and a view from the
room for meals.*



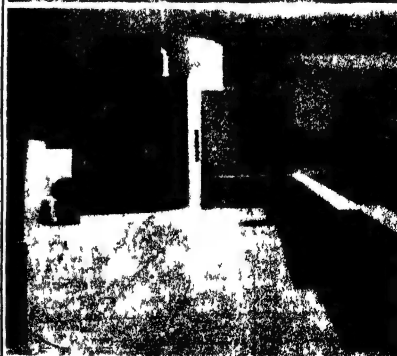
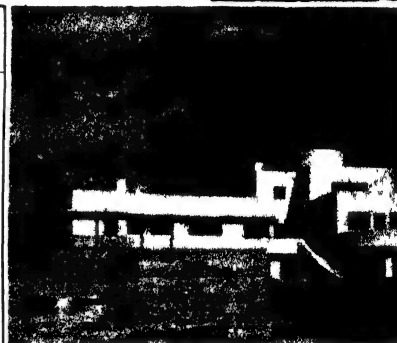
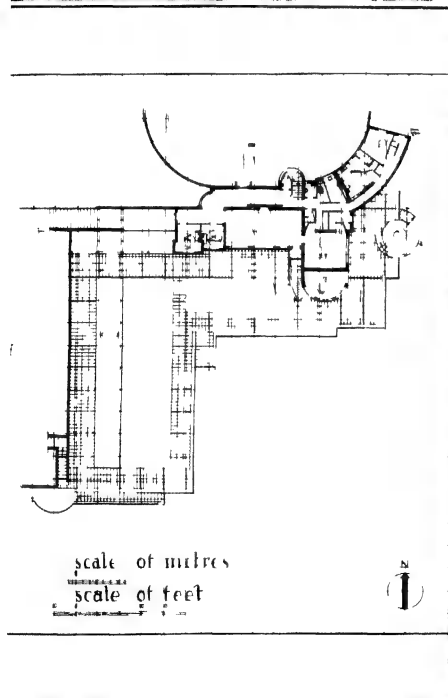
Deutsche Werkbund Exposition at Cologne in 1914. After 1918 this idea became general, but there was still a number of designers who were of the opinion that making furniture in fixed units was not art and the Exposition Internationale des Arts Décoratifs in Paris in 1925 was, in furniture at least (and putting Corbusier's Pavillon to one side), a protest against the machine. For a development of the furniture forms of Voysey, Walton and Mackintosh it is to Germany and Austria that we have to go. The French were playing with the idea but were still more interested in strange materials than in good line.

To-day the making of furniture in fixed units, sometimes as part of the structure of the house itself, is a common enough idea. More and more are we coming to see our hanging-cupboards and sideboards in the same light as our electric cookers—with an eye for use as well as for looks. In the flat and the small house there is a new need for furniture in small units to which additions of a same sort may be made whenever necessary. The best examples of this sort have been made by two Germans, Franz Schuster and Adolf G. Schneck, and to Serge Chermayeff goes the credit of letting us see something of Schuster's work in this country.

A great change in furniture design has come about through the use of layer-board, the best examples of which are the chairs, tables and other furniture of Alvar Aalto. Wood is an old friend of ours, but we are quickly making a number of new ones—glass for shelves and cupboard fronts; rubber for the tops of common tables; moulded steel for cupboards, bookshelves, waste-paper baskets and ice-boxes; "bakelite" for radios and probably, in the near future, for chairs and other furniture. But the greatest change of all has come in the use of hollow steel frames. This bright idea has been the cause of a great increase in physical comfort but, with some Englishmen, an equal loss of comfort to the mind. Why is this? The best steel chair makes the error of being new and no doubt has something of the air of a machine about it, and till it is as common as the two-wheeler from whose lines it is copied we will still be somewhat self-conscious at the amusement

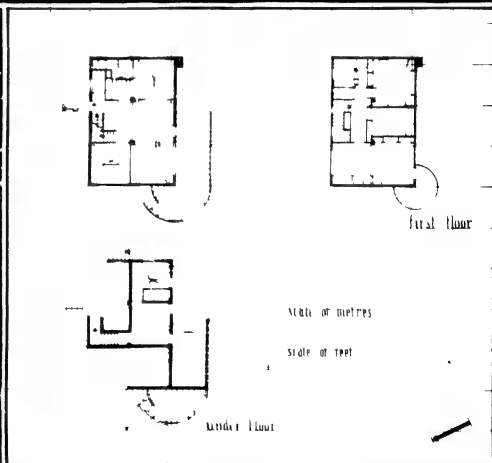
which Mr Punch gets out of it so regularly in his unchanging pages. But new as it seems to be, it may be surprising to those so deeply conditioned by the past that this new and much-regretted development had the warm approval of the Romans. Nearer to our times clean hospital beds of bent machine-made iron rods came into use in 1860. Ten years later the rods were being used for chairs, chiefly in open-air restaurants. But not till after 1918 was the hollow frame of the two-wheeler made use of for the indoor chair. The first attempts were made by the architect Marcel Breuer; a great number of tests of what was possible on these lines were made by Mart Stam of Holland; and at last the chair and armchair in one complete curved steel frame was produced by Miës van der Rohe. Such chairs make use of the elastic qualities of metal and their amount of spring is certainly a great comfort to those who do not let their fixed ideas get the better of them. They are generally of less weight than wood chairs, other than the bent-wood sort, and may be moved smoothly across the floor. For this reason they are best used in rooms with quiet soft floor-coverings. When metal-plating has become more safe against attack the good points of mass-made steel furniture will be more readily seen. So far all the best work has been done by Thonet Brothers of Boppard on the Rhine, among the names of whose architect-designers are those of Breuer, Miës van der Rohe and Corbusier. Thonet chairs in bent steel or bent wood are to be seen in every country.

The design of furniture is full of possible developments, but it has its dangers for the unwise. There is nothing more simple and at the same time more complex than the normal chair. Adolf G. Schneck in his book on chairs has gone to some trouble to give us the sizes of the normal chair. These are given on page 57. The seat and back are curved, have a certain amount of spring, and are wide enough for changes of position without loss of comfort. The best chair has, in side-view, this form of the letter \smile , in agreement with the position of the body when seated, as in the right sort of layer-wood chair. It is the chair's purpose to give the



Example 29

*Oliver Hill (London).
Joldwynds, Holmbury St. Mary, Surrey (1933).
Views from the south-west, the south and the roof
garden.*



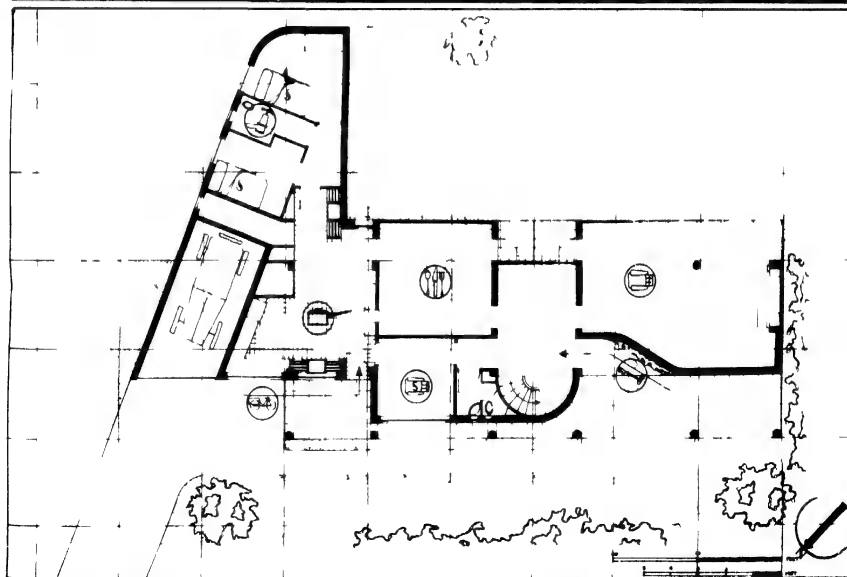
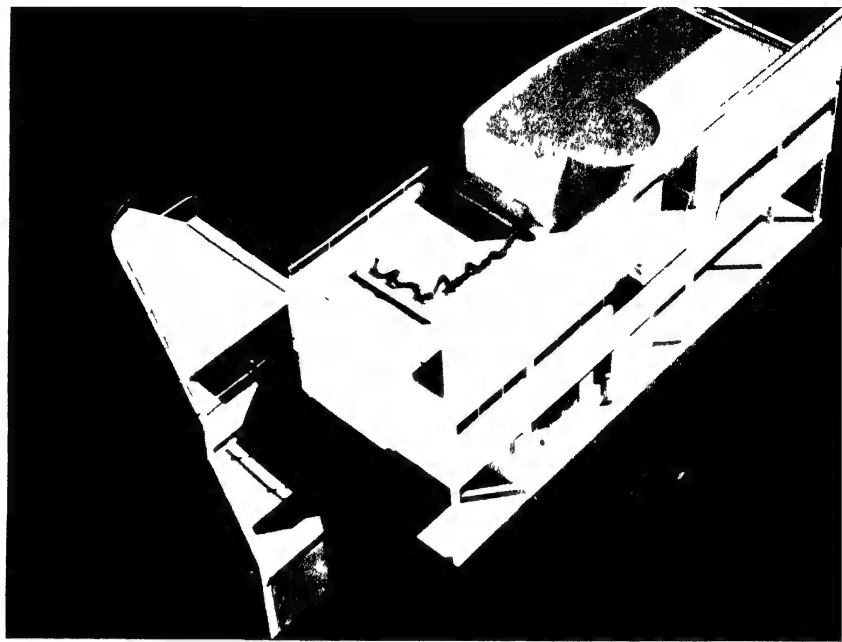
*Serge Chermayeff (London).
House at Rugby (1933-34).
Views from the west and
south-east.*

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to a bed. Noël, the designer for Voisin, has only cushions on the floor of his automobile and goes long journeys in complete comfort. Corbusier and Charlotte Perriand, when they made the design for their noted bent-steel chair covered with skins, took as their example the cowboy resting at full stretch with his feet on

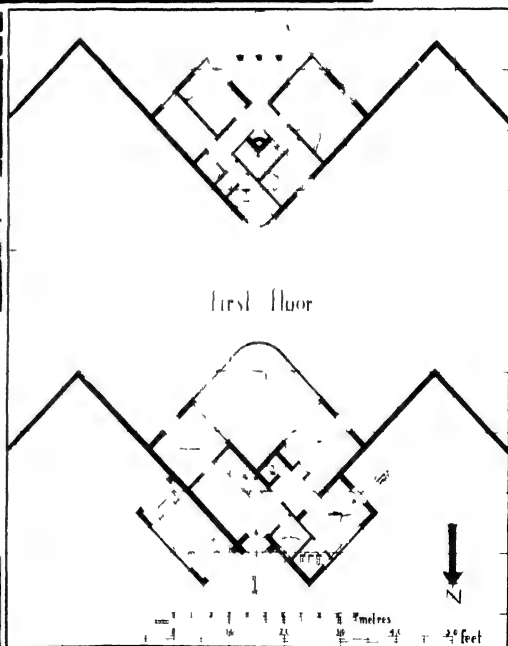
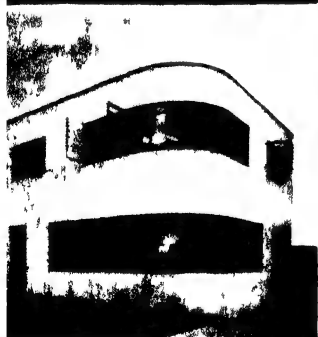
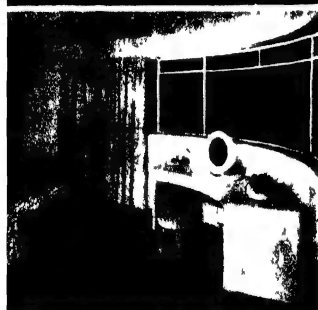
the table, the weight of the body keeping the chair in the necessary position.

The curtains, chair-coverings and other cloth materials used are, like colour harmonies, chiefly to give pleasure and a feeling of well-being. Without question, the credit for the increasing use of good ornament in our time goes to William Morris (1834-96) whose strong reaction against the strange developments of bad taste in Victorian England had a healthy effect all over the earth. After his false start as an architect in the office of George Street, the chief architect of the Gothic Revival, he gave up building and took to painting. Then, when he was married in 1859, his architect friend Webb put up the noted Red House for him near Bexley Heath in Kent, and in his attempts to get good furniture for this he suddenly became conscious of the great unworked field of British design. Two years later saw the start of Morris and Co. Of the cloths and floor- and wall-coverings which were made and coloured in Morris's works at Merton Abbey it is unnecessary to give any details. Their ornament was based on natural and living forms. Their effect on designers interested in needlework, Berlin woolwork, things on chair backs to keep them from being made sticky by hair-oil, animal skins, thick curtains, and floor-coverings seemingly designed after the stranger growths of market-gardens, was sudden, electric and healthy. Morris was fired with a deep love of art and a violent feeling against the small comforts of Victorian tradesmen. He may have had his eyes turned to a happy mist-coloured time on the edge of history but his feelings and impulses were right and true, and if his great number of copiers have made his sort of handwork seem feeble and unnatural in their "art nouveau" the reason is in the unhappy tendency for good things to get into the wrong hands. Voysey, by whom some of Morris's wallpapers were designed, was one of the first to go against the complex thick ornament of the Pre-Raphaelites generally—against such examples as Walter Crane's detailed paste-work picture of the birds and fruit in Omar Khayyam.



Example 31

*V. Harding and Tecton (London).
House in Crescent Wood Road, Dulwich (1934).
Air-view.*



*Wells Coates (1
The Sunspan House, Olympia (1934).
The living room, the chief bedroom and
a view from the south.*

In Vienna Josef Hoffmann (1870-) gave a new birth to the art of ornament. Cloths were designed on much simpler lines than Morris's, and the coming of Cubism in 1910 at last gave us a system of design completely natural to cloth. To such men as Grasset, Verneuil and Mucha goes the credit for the new sort of geometry of animals, leaves and flowers which was so important a development twenty years back and so different from Morris's line-for-line copies of natural forms. This geometry quickly became general and ornament more normal, while at the same time dress became of less weight and taste was turned to more delicate materials and to special qualities of different materials. Open designs took the place of thick pictures in the same way as delicate steel took the place of stonework in buildings.

At the Paris Exposition Internationale of 1925, which was responsible for the general approval of that disgusting ironwork which is to be seen everywhere like the nets of great iron insects, the cloths of Bianchini-Férier, the house which had such noted designers as Segny and Dufy working for them, were put on view. After this there was a general change for the better in the quality of machine-made cloths, side by side with a new start in the making of cloth by hand as, for example, in the cloth made for Rodier by the country-workers in Picardy. In Germany and Austria this new interest in hand-made materials was an outcome of hand-work schools such as the Werkstätten der Stadt Halle which had done a great amount of good in the development of a better and healthier taste for design generally.

To-day cloth materials are more beautiful and of a greater number of different qualities and colourings than ever before. The machine has probably had a greater effect on cloth-making than on any other industry. In the old days the thick cloths worked in detailed pictures were natural to the slow rate of living; in the same way present-day cloths are equally right for our quicker and shorter reactions and in harmony with the clean processes of the machine. The most pleasing designs to our mind are those which come not from the workman's chance ideas but from

the natural structure of the material itself. The best examples of this true feeling for the qualities of the cloth are probably to be seen in the furniture of Walter Knoll of Stuttgart, whose designs are based on an all-round knowledge of wood, steel and cloth materials and who has been responsible for a wide range of very beautiful effects in all three.

PLANNING AND BUILDING

E. COLOUR AND ORNAMENT

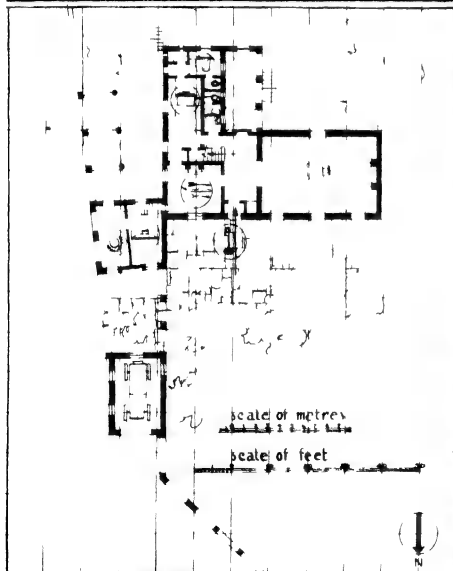
Colour is one of the qualities of form through which harmony and rhythm are given fuller effect. Complex colour ornament, as it was used by the Greek, Egyptian and Gothic builders in the past, is out of place on the simple forms of present-day buildings, and wherever the new architects have made use of bright colour it has been in unbroken masses as in Ernst May's Praunheim housing at Frankfurt-am-Main where the walls of different group-house fronts are coloured blue in one street, red in another and white in another. The Stijl-Gruppe of Dutch architects make use only of clean colours like black, white, grey, red, blue and yellow. The stronger of these are used only in small amounts. Rietveld makes use of colours in this way. Bruno Taut's house at Dahlwitz (ex. 80) is black on the east side and white on the others. But for the most part the colouring of new buildings, where they are not in natural materials, is as simple as the forms themselves, and bright colour is rightly valued for its effect in small amounts only. In this book half the examples are of houses which are all white, but whites of very different qualities. The effect of light on the structure of the material of the wall-face, rough or smooth, makes whites, and delicate colours, specially beautiful. Of the other examples a number are light red or warm light colours, but sometimes the colder colours have been attempted as in Rudderbar (ex. 22) where the walls are light grass-green under the balcony and light blue over it, and in Corbusier's Savoye house (ex. 67) where the lower part is dark green and the walls over it light yellow while the screens on the roof-terrace are colour-washed light red and blue. Naturally the colder colours have a

better effect when we go south to the blue and green walls of Mediterranean Spain and Tangiers.

It is not only by the present-day architect that forms are given a clear effect by the use of unbroken masses of colour. Painters make the same use of clear colour-form in place of natural detail, and so a wall-painting by Willy Baumeister is in complete harmony with a room by Richard Döcker, a Picasso, Braque or Léger with a room by Lurçat or Corbusier, and a Paul Nash or Wadsworth with a room by Colin Lucas or Chermayeff. This is not the effect of group suggestion but of a like feeling for design in its widest sense—a harmony between all representative present-day forms. This is a point of view which is based on an interest in discovery in place of the fixed belief in what was produced by art before our time.

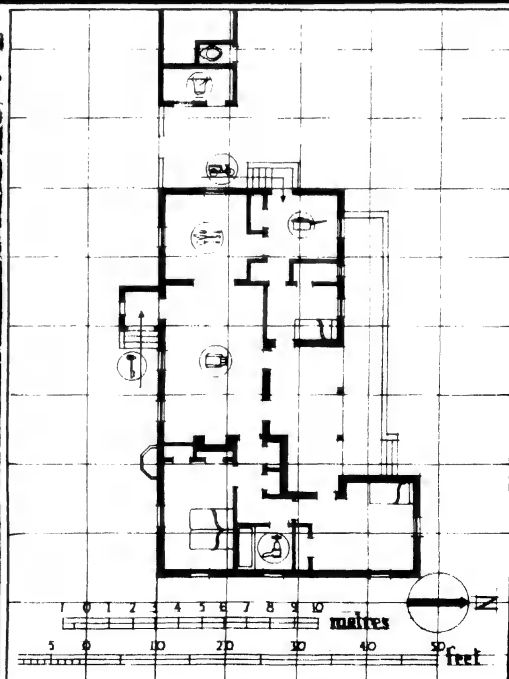
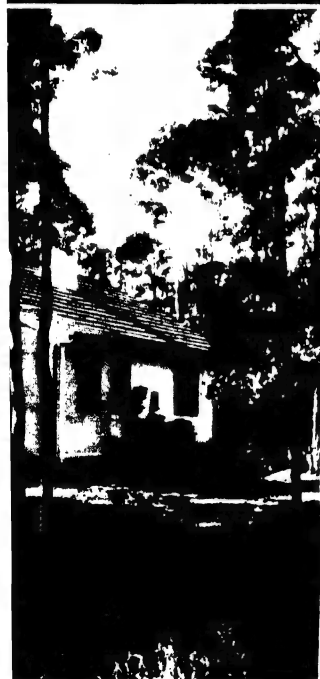
It is common knowledge that by the use of colour happy, sad and other less certain conditions of mind may be produced. We have frequently seen that while a building is being put up the best of forms may be dead and the feeling of size quite different without colour. There is in addition the important quality of the materials themselves, floor-coverings and hangings, and form and placing of furniture giving the complete effect, but even without its chairs and ornament, if it has any, the room's colour-form is good or bad from the start. Again the colour-form has its changing relation to the uses of the owner, to more or less short-living things such as pictures and flowers and to that seemingly living thing—light, which, from the sun or an electric plant, has the greatest power of changing the effect of colour and form. These changes are important to the idea of colour-form, in whose united design detail is unnecessary.

As for this detail, the ornament, it is not necessary to say much about it. Ornament is not art, it is frequently the overworking of the power of design, and in a present-day room the place of a thousand Adam mouldings is taken by one Modigliani or a head from the Congo. Such is the effect in our day of that feeling against the old forms of ornament which had its start with the "art nouveau".



Example 33

*Professor Leslie Wilkinson (Sydney).
Greenway, Vaucluse, Sydney (1922).
The north front and the way into the
garden from the automobile house.*



*Wardell, Moore and Dowling (Sydney).
 House at Wahroonga, Sydney (1928).
 Views from the north and the south-
 west.*

No one has put the statement against ornament better than Adolf Loos in his *Ornament und Verbrechen* (Crime and Ornament):

“The stages of a boy’s development are like those in the history of society. At two years old his ideas are like the Papuan’s, at four like the German’s, at six like Socrates’, and at eight like Voltaire’s. At eight he becomes conscious of ‘violet’—red-blue—the colour first named in the eighteenth century.

“The boy has no sense of shame. Judged by our measures the Papuan has equally no sense of shame. He puts to death those who go against him and puts them in the cooking-pot; but this is no crime. Now if one of us were to put a man to death and make a meal of him it would certainly be a crime or at least a sign that we were going back. The Papuan puts paint on his skin, his boat, his blade—in fact on everything in range. This is no crime, but the man of to-day who has designs painted into his skin is generally a man with a prison record or someone with a twisted mind. Eighty out of every hundred men in some of our prisons have their skins painted. Men with painted skins who are not in prison are probable wrongdoers or society men with unnatural tendencies.

“The desire to put paint on one’s face or on anything in range is the cause of art. All art is based on Sex. The level of a country’s development may be judged by the look of the walls in public W.C.’s. To the small boy and the Papuan it is natural to have everything covered with writings, an early statement of art.

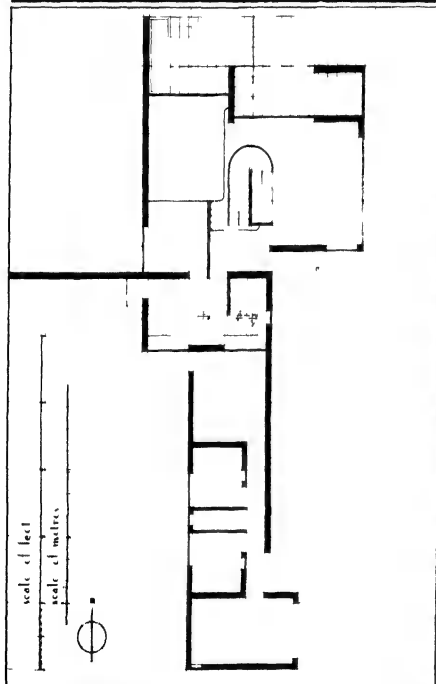
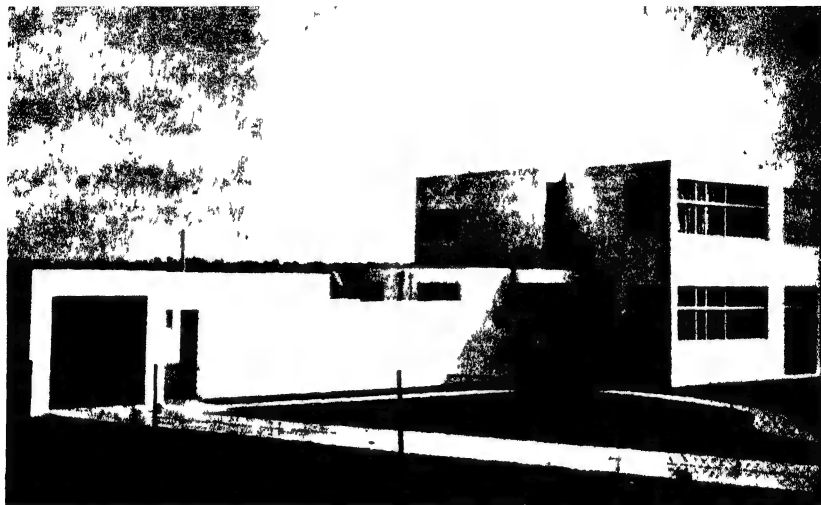
“Development in taste goes with the cutting down of ornament on things of everyday use. I gave this idea to all in the hope that it might make them happy, but so far I have seen no signs of pleasure in it.”¹

PLANNING AND BUILDING

F. VALUES

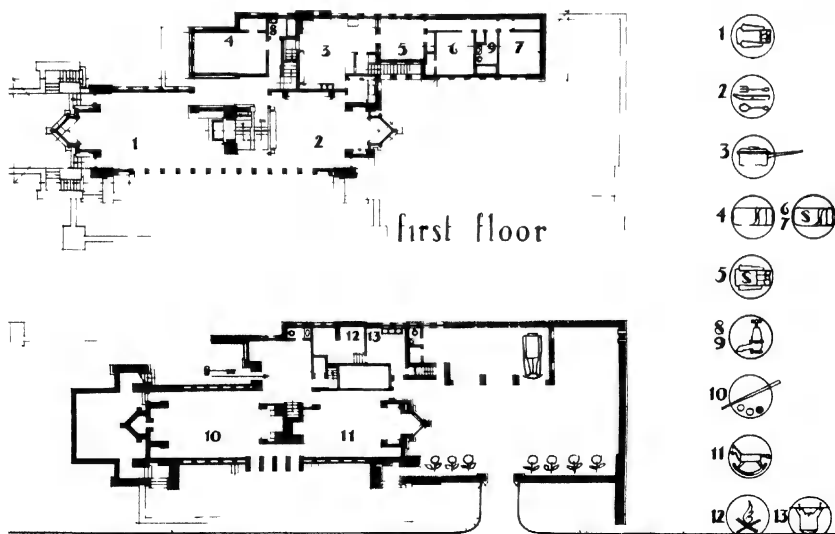
Most of the examples given in this book are of private houses ranging in price from £1000 to £3000. The cheap house and specially the house valued at about £350 for the working man and his family is not attempted here, but that is not to say that it is less important or less interesting than the dearer house three streets away. The cheap house comes under mass building and as such does not take into account the special tastes of any one person or family, but at the same time it is a branch of housing to which the responsible architect will give his greatest attention if he has at heart the material well-being of his countrymen. The works of Oud in Holland and Gropius and Otto Haesler in Germany are examples of what is possible in this field. To them the cheap house is still as much a question of art as of science. The argument as between house and flat has made the question more complex. Engineers like Buckminster Fuller see an answer to it in houses in separate units like the automobile, while others like Corbusier put their belief in group buildings and flats. The need for decision may be seen in the fact that in Great Britain 1,000,000 more houses or flats are necessary in addition to the 100,000 houses which have to take the place of those normally pulled down every year.

The selection of examples in this book has been dependent not on price but on value of design. It is clear that some of the architects and owners have been overfree with their money, but there is no need to let our opinion of their work be conditioned by this. They have given us examples of building and design which, as early attempts in new forms, would not have been possible at a limited



Example 35

*Hanson, Tomkin and Finkelstein (Johannesburg).
House for Arthur Harris, Lower Houghton,
Johannesburg (1933).
Views from the south-east and the north, and
the living room.*



price. Other architects have taken the owner's price and kept inside it. Most of us have tastes outside the range of our money-bags, so the house which will be good material value for the money is more necessary than desired.

It is hard to make any general statement as to the money-value of different materials and forms of structure. These are not the same in any two years or any two countries. In England and most other places there was, in 1919, a sudden increase in the price of materials through the great impulse given to the building trade by the coming of peace again. There was a parallel increase in rates of interest, so that it was some time before any important houses were put up. Only about six of my examples come from the first seven years after the war. There has been a regular fall in prices from that time on, but we are still well over the 1914 level. 1930 is the first year of normal building, and it will be seen that two-thirds of the examples are of houses put up after that year.

The fall in the price of materials has chiefly been caused by mass producing with machines, but we have not so far been profiting from the full effects of this because of the very great increase in the price of working these materials—one effect of the higher level of living—so that but for the much quicker rate of our present systems of structure we would be getting very little good from the machine.

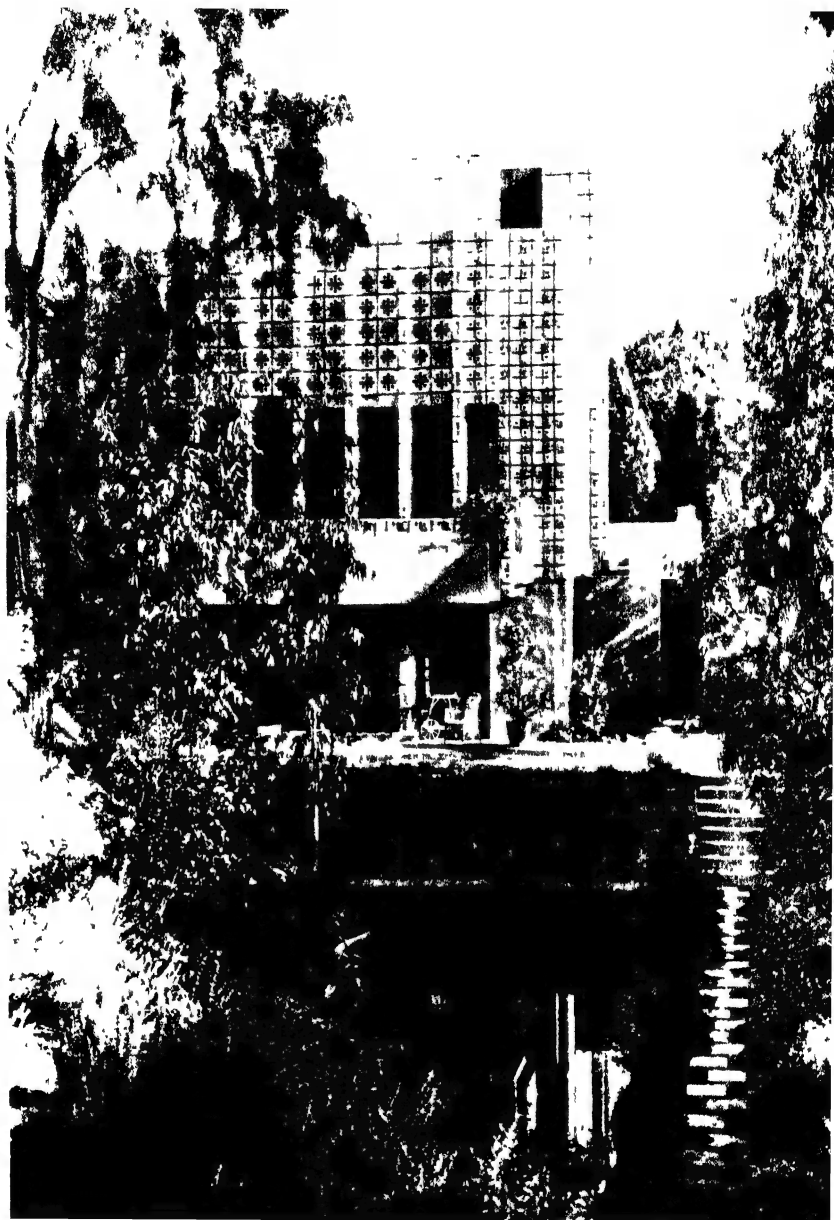
This impulse to get back to responsible building is still so young that there has naturally been only a limited chance, specially in house building, to get much experience of the use of such new materials as steel-concrete. Some countries are in front of others in this, but the existence of the machine does not let the workman be any less expert in his work. There is no new material which is not in need of the greatest care and thought from architect and workman. Error may have been less important in the handwork of the past, in fact may frequently have been an attraction in itself, but to-day there is no place for error in building. I am not saying this in connection with the mass-made house, which will seemingly come complete

in its box to be put together again like any other machine, but in connection with buildings chiefly made up of mass-made units—mass-made doors, windows, heaters, baths and so on—all of which have to be fixed with the greatest care. It is in the use of mass-made units, from which a selection may be made in agreement with the designer's taste, more than in mass-made houses, that there is the greatest hope for building.

The Dymaxion house may be had at 25 cents a pound straight from the works. Normal house-building is however a more complex business than this, and one for which detailed and special accounts of work and material are necessary. In this connection I give some representative details on the opposite page.

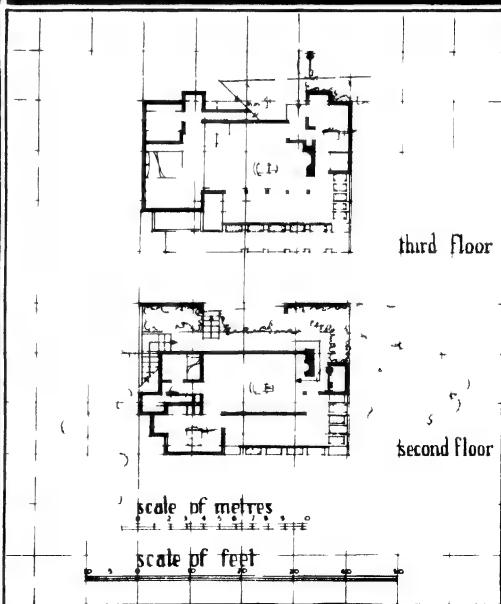
From this list it will be seen that the house systems—heating, lighting and drains—come to almost one-third of the full value of the building, and the tendency is for an increase of this amount. Mr Henry Wright makes the statement, given in Lewis Mumford's book *Sticks and Stones*, that in 1800 the structure of a house was representative of nine-tenths of the full value of house and land. All through the hundred years after 1800 there was a slow but regular increase in the amount necessary for land and apparatus, till in 1900 the curve took a sharp turn up; with the effect that in 1920 the price of land and apparatus had come to be almost one-half of the payments to be made. The value of the house systems will go on increasing the more it becomes normal for a house to be air-conditioned and the more the tendency becomes general to make furniture, radio and even television a part of the house structure.

By way of giving the reader a general idea of values, fifty-six of the examples are measured in mass (ft.³) and listed in order of their price in English money at the time of building. The German Reichsmark was fixed in 1924, the Pound Sterling in 1925. There has not been a great change in building-prices in this country from the time the pound went off gold in 1931. So all price comparisons in buildings put up after 1924 have been based on the gold measure of the different countries (see pp. 68 ff.).



Example 37

*Frank Lloyd Wright (Spring Green, Wisconsin).
Millard House, Pasadena, California (1921).
The south front.*



*R. M. Schindler (Los Angeles).
 Summer House at Avalon, Catalina Island (1928).
 The balconies, a bedroom and the front door.*

**THE DIVISION OF WORK AND MATERIAL* FOR THE
STEEL-CONCRETE HOUSE AT HASLEMERE, SURREY
(EXAMPLE 21), IS GIVEN AS:**

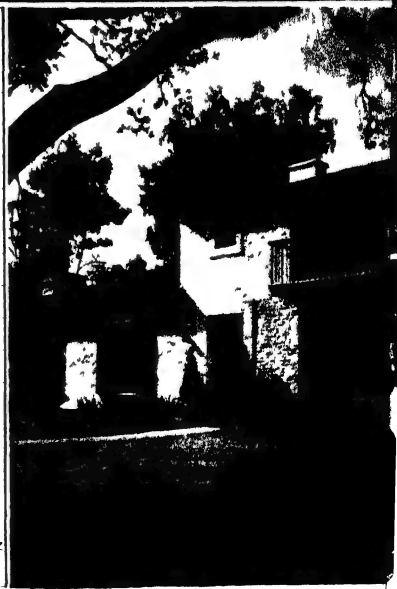
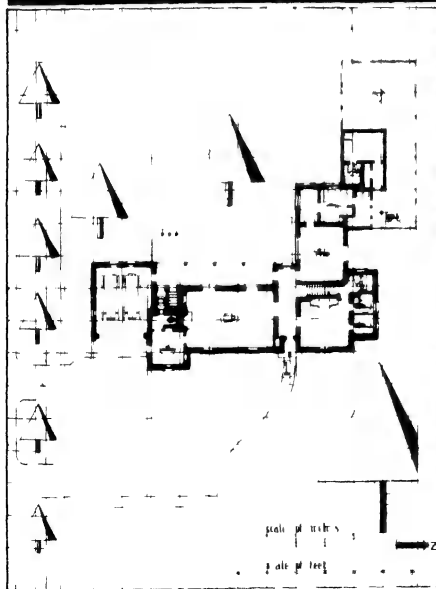
<i>Trade</i>	<i>Rate %</i>
Making ready	3·30
Earth work	0·31
Concrete structure	24·00
Drains	5·50
Flooring	3·57
Division walls	2·80
Asphalt roofing	1·52
Stonework	0·84
Wall and ceiling boarding	4·53
Woodwork, doors and door furniture	9·33
Metalwork, hand-railing	2·26
Rainwater pipes	0·43
Cooker and fireplaces	1·71
Steel windows and roller door	2·75
Electric lighting	7·60
Heating and warm-water systems	7·25
Piping systems and connections	4·40
Baths, W.C.'s, wash-basins	2·13
Plastering	3·05
Glass	2·31
Painting	5·62
Insurance and payments to authorities	4·79
	<hr style="width: 100%; border: 0; border-top: 1px solid black; margin: 5px 0;"/> 100·00

By kind authority of the architects and Mr Cyril Sweet, P.A.S.I.

<i>Example</i>	<i>Feet³</i>	<i>Full value without furniture</i>
<i>Example 78</i> Rest-House, Liebau, Silesia (1928) Wood structure	—	£294 4
<i>Example 89</i> House Bendix, Berlin (1930) Wood structure	—	£681 10
<i>Example 42</i> Mosk House, California (1932) Wood structure	—	£794 17
<i>Example 122</i> House Dr N., Warsaw (1932) Steel frame and concrete building units	17,500	£830 0
<i>Example 107</i> House in the Rosenhügel, Budapest (1932) Brick structure	28,000	£970 0
<i>Example 72</i> Week-end House, Hamburg (1926) Brick structure	—	£980 0
<i>Example 55</i> 10 rue Marianne, Brussels (1932) Steel-concrete structure	—	£1086 0
<i>Example 125</i> Barriada Residencia, Madrid (1932) Brick structure	—	£1183 14
<i>Example 124</i> Casamarilla, Madrid (1933) Steel-concrete structure	—	£1244 3
<i>Example 14</i> Forsyte, Hockley, Essex (1930) Brick structure	—	£1300 0
<i>Example 109</i> House Forgács, Budapest (1932-33) Brick structure	—	£1300 0
<i>Example 26</i> House at Welwyn Garden City (1933) Brick structure	22,000	£1323 0

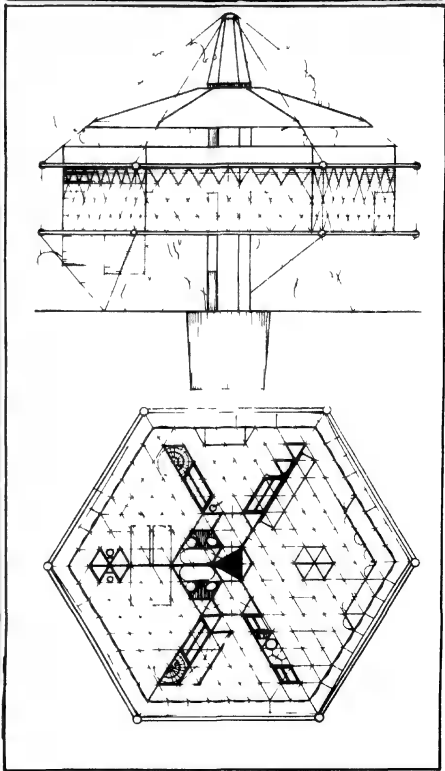
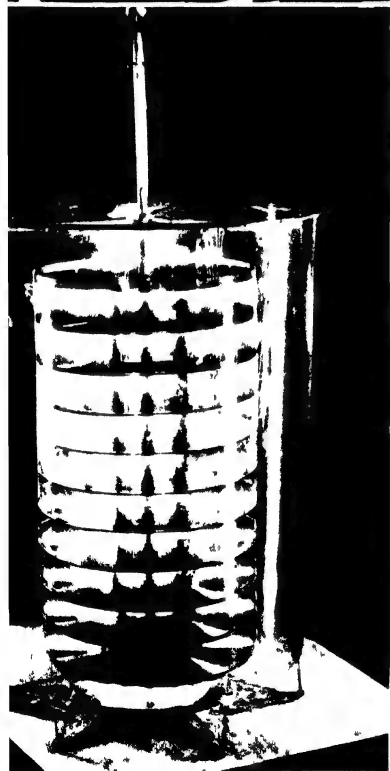
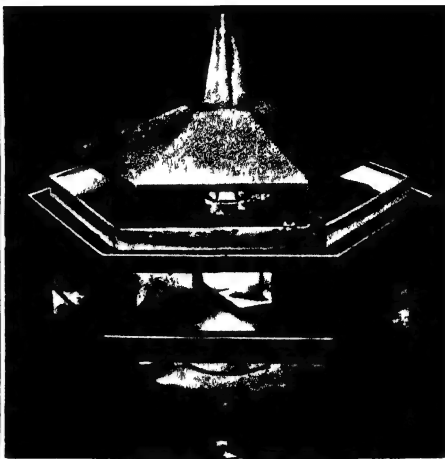
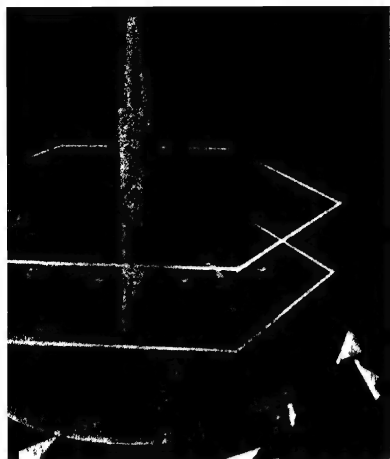
<i>Example</i>	<i>Feet³</i>	<i>Full value without furniture</i>
<i>Example 108</i> Villa Schächter, Budapest (1932) Brick structure	49,000	£1400 0
<i>Example 28</i> St Raphael, Hornchurch, Essex (1933) Brick structure	20,000	£1500 0
<i>Example 106</i> House Harnischmacher, Wiesbaden (1932) Steel-concrete structure	40,350	£1700 0
<i>Example 81</i> House in Welzheim, Württemberg (1928) Brick structure	56,000	£1720 0
<i>Example 59</i> House in Böhmisch Komnitz (1932) Brick structure	46,000	£1748 0
<i>Example 15</i> Starlock, Rye, Sussex (1930-31) Brick structure	24,700	£1800 0
<i>Example 35</i> House at Johannesburg (1933) Brick and steel-concrete structure	28,000	£1800 0
<i>Example 53</i> House Dr L. K., Vienna (1933) Brick structure	40,000	£2000 0
<i>Example 38</i> Summer House at Catalina Island (1928) Wood frame with concrete floors	16,000	£2054 0
<i>Example 31</i> House at Dulwich (1934) Steel-concrete structure	40,000	£2100 0
<i>Example 44</i> House at Chicago Century of Progress Wood frames and wall-boards (1933)	16,000	£2136 0
<i>Example 50</i> House Dr A. F., Vienna (1931) Brick structure	38,000	£2150 0

<i>Example</i>	<i>Feet³</i>	<i>Full value without furniture</i>
<i>Example 34</i> House at Wahroonga, Sydney (1928) Brick structure	30,000	£2170 0
<i>Example 114</i> House Sakio Tsurumi, Tokyo (1931) Part wood frame & part steel-concrete	—	£2194 0
<i>Example 69</i> House at Vaucresson, Seine-et-Oise (1932) Brick structure	—	£2242 0
<i>Example 51</i> House in Vienna XIII (1931) Brick structure	41,000	£2400 0
<i>Example 13</i> House at Bosham, Sussex (1930) Brick structure	35,572	£2460 0
<i>Example 119</i> House Yamamoto, Tokyo (1933) Part wood frame & part steel-concrete	—	£2465 0
<i>Example 104</i> House in the Rosenhügel, Budapest Brick structure (1931-32)	63,000	£2520 0
<i>Example 68</i> House Hefferlin, Seine-et-Oise (1931-32) Steel-concrete structure	—	£2595 0
<i>Example 128</i> House Wildberger, Basle (1931) Brick structure	27,500	£2600 0
<i>Example 20</i> Thurso House, Cambridge (1932) Steel-concrete structure	32,732	£2650 0
<i>Example 16</i> West Leaze, Aldbourn, Wiltshire (1931) Brick structure	23,544	£2753 0
<i>Example 23</i> Lobden, near Malvern (1932) Brick structure	44,100	£2990 0



Example 39

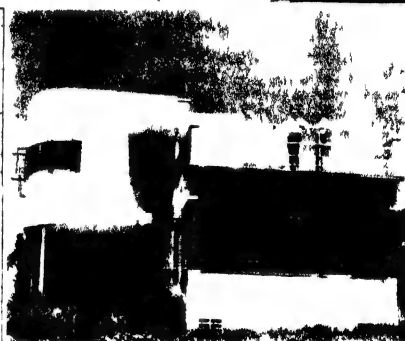
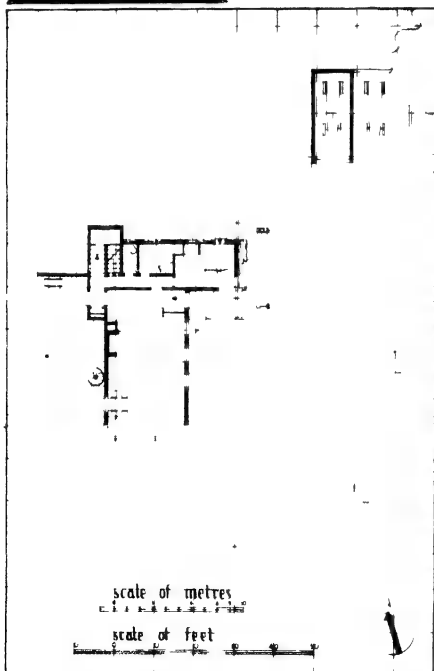
*Palmer Sabin (Pasadena).
Roscoe Thomas House, Pasadena, California (1929).
The east front and detail of the front door.*



*Buckminster Fuller (Bridgeport, Connecticut).
Dymaxion Houses (1932).
The house in the making, the house
complete and a Dymaxion building of a*

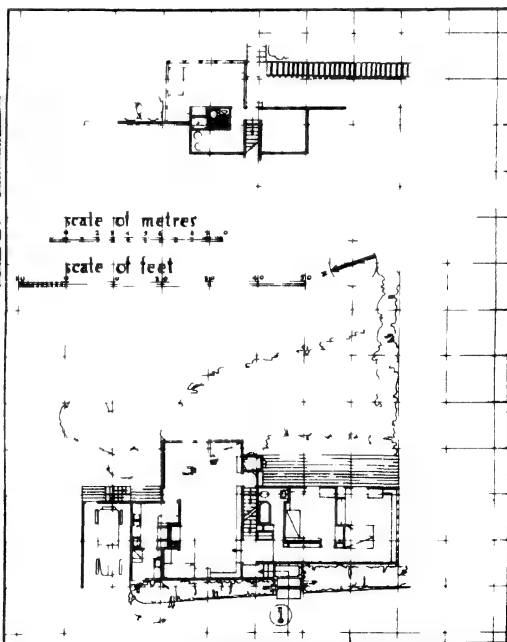
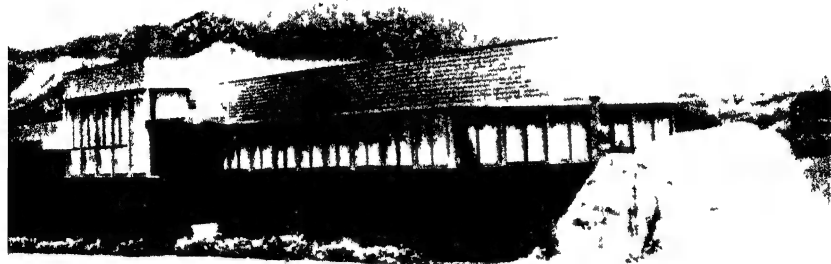
<i>Example</i>	<i>Feet³</i>	<i>Full value without furniture</i>
<i>Example 12</i> Undertown, North Cornwall (1930) Cornish stone	—	£3000 0
<i>Example 33</i> Greenway, Vacluse, Sydney (1922) Brick structure	—	£3000 0
<i>Example 103</i> 3 Place du Lycabette, Athens (1931) Brick structure	—	£3000 0
<i>Example 43</i> V.D.L. Research House, Los Angeles Wood frame (1933)	27,000	£3052 0
<i>Example 39</i> Roscoe Thomas House, California (1929) Brick and wood frame	33,400	£3088 0
<i>Example 47</i> House Rosenbauer, Donau (1929) Brick and concrete structure	77,000	£3300 0
<i>Example 57</i> House at Brünn (1931) Brick structure	45,500	£3500 0
<i>Example 110</i> House Olafssonar, Iceland (1931) Steel-concrete structure	—	£3800 0
<i>Example 71</i> Controllers' Houses at Dessau (1926) Concrete structure	66,780	£3880 0
<i>Example 100</i> Country House in Saxony (1932-33) Steel frame and cell-form concrete structure	87,500	£3900 0
<i>Example 17</i> Yaffle Hill, Broadstone, Dorset (1931) Brick structure	—	£5000 0
<i>Example 41</i> Field House, Connecticut (1932) Steel frame and plaster	25,500	£5481 10

<i>Example</i>	<i>Feet³</i>	<i>Full value without furniture</i>	
<i>Example 52</i> House Hilde Goldstein, Vienna (1932) Brick structure	77,700	£6380	0
<i>Example 19</i> Kirkby House, Yorkshire (1931) Brick structure	70,500	£6458	0
<i>Example 48</i> House B, Vienna XIII (1930) Brick structure	105,000	£7273	0
<i>Example 84</i> House Mendelsohn, Berlin (1929) Steel frame and brick	70,000	£8000	0
<i>Example 49</i> House Treichl, Tirol (1930) Brick and concrete structure	192,500	£9000	0
<i>Example 97</i> Country House near Nuremberg (1931) Brick structure	143,000	£9500	0
<i>Example 93</i> House Streiff, Lake Zürich (1930-31) Concrete and brick	83,300	£9900	0
<i>Example 9</i> Chester House, Hyde Park (1925-26) Brick with steel-concrete floors	64,000	£10,000	0



Example 41

*Howe and Lescaze (Philadelphia).
Field House, New Hartford, Connecticut (1932).
The living room, the south front and a view
from the north-east.*



*Richard J. Neutra (Los Angeles).
Mosk House, Hollywood Mountains, Los Angeles,
California (1932).
views from the west, the south-west and the south.*

V. EXAMPLES

C. R. ASHBEE (London)

1. 72-73 *Cheyne Walk, Chelsea* (1894-96)

C. R. Ashbee (1863-) still has to-day the same qualities of mind and heart which were his as a young man—qualities which come from clear and straightforward reasoning. Though he has been as strong as Morris in his approval of handwork, it is not a handwork interested only in small details and quite out of touch with normal existence. He has ever had at heart the relation of building to the country generally, and the need for nation-wide planning has been an unchanging belief of his for a long time. "Morris had said: 'Put all thought of the machine out of your mind' and take yourself away into a Happy Land untouched by present-day developments. This in the words of Keats was a 'quiet cover for us, and a sleep full of sweet thoughts and healthy feeling, and quiet breathing.' But all that is over. Though the things these men made may have been very beautiful they are as far from us now as the Rococo was from them."¹ These are Ashbee's words and were a much-needed and uncommon point of view seventeen years back.

The list of his works is small. He has put up one or two new houses and kept from destruction a great number of old ones, specially the small Cotswold houses at Chipping Campden. But his chief work was done in the East as Civic Adviser to the Palestine Administration in the years after 1918. There it was his business to take care of all buildings, make plans for new roads, and be responsible for the working of the English Town Planning Law. He gave far more effect to this law, by the way, in Palestine than it has ever had in England.

His first interest has ever been in the building up of society on a new and better plan, but this has not made his love of the old any less, because "it is not good for a lover of art to put an end to a beautiful thing or anything planned more greatly by another".¹ So as a protest against the shocking destruction of great buildings by public bodies in the poorer parts of East London the "London Survey" was started by him in 1896 and a short time after was given the authority of the London County Council. Mapping comes before planning, he said, and any building however good is wasted if it is part of a poor plan or of no plan at all.

In the last four years his attention has been given to the safe-keeping of the English Parks whose private woodlands and grasslands are the one hope of our countryside. In our time a great number of them have been broken up for cheap housing developments. In Germany the "Englischer Park" has been kept wherever possible as an open space for the pleasure of those living round it. But in England a Park is seemingly a space to be used for building the greatest number of houses possible to the acre. "Nowhere is there any hope of organization, any purpose, any idea, any guide, any control."

The eighteen hundreds saw a number of strange reactions in the art of building and a certain false feeling became general. But about 1900 the effects of a more reasoned outlook were to be seen in the work of one or two English architects. Buildings were no longer looked upon as pictures in stone or brick but as structures with a form which was a natural growth of the plan. The houses in Cheyne Walk (ex. 1) are structures of this sort. The house-front is a statement of a free plan. There is nothing of that false balance which is simply the putting together of two more or less equal halves. They are certainly a good example of the change of feeling at this time.

No account of Ashbee would be complete without something about his writings. He is a writer of verse in addition to being an architect, and as early as 1903 he had given his views on the work of Frank Lloyd Wright, of whom not more than one or

two English architects had any knowledge at that time. In 1912 *Should we Stop Teaching Art?* came from a good-humoured but somewhat cutting pen, and in 1917 *Where the Great City Stands* made public his belief—based like most beliefs more on feeling than on reason—in the coming of a new form of society. “Where we are different from the later Victorians”, he said, “is in our belief that the future is not in the machine but in the force of mind which will give it purpose. For us what is beautiful is no longer only a pleasure. Much less is it a pleasure only to be had by one part of society. We do not take the view that pleasure is everything. For us what makes a thing beautiful is a force which comes in and through all things, a property given freely to all men, a condition to which all may come by power or feeling. On this belief the new order of society is based.”¹

C. F. ANNESLEY VOYSEY (London)

2. *Broadleys, Windermere* (1898)

3. *The Orchard, Chorley Wood, Herts* (1900)

C. F. A. Voysey (1857–) is the son of the Rev. Charles Voysey who was turned out of the Church of England for talking publicly against the belief in punishment after death and who was responsible for the starting of the Theistic Church. The same free and straightforward purpose which was the key-note of his father's existence is equally present in the works of the architect son. When a young man he was five years with J. P. Seddon. In 1882 he made a start at working for himself, and one of his first houses, that at Bedford Park, West London (1888), is surprisingly different in design and feeling from the common examples of that time. He was at his best in house-design, and in thirty years was responsible for about a hundred houses, one of which was for H. G. Wells. In 1906 was printed his interesting *Reason as a Basis for Art*, and in 1915, no doubt under the effects of the general reactions of that time, he came out with *Individuality*, an attack

on all group ideas and a reasoned argument for good behaviour in art. In 1924 he was made Master of the Art Workers' Guild which had been started in 1883 in Norman Shaw's office.

We rightly put Ashbee, Voysey, Mackintosh and Walton first in order among the architects of the last thirty years, not because of the value of the buildings produced by them, but because they did much of our hard work for us. As engineers they were far less important, and quite naturally Voysey does not see himself as being responsible for international and group ideas of structure. But the effect of his work is to be seen all about us and with Mackintosh he was given an uncommon amount of attention in other countries, causing everywhere a truer feeling for building and furniture, and support for reason as against feeble copying from hand-books. The ideas to which Prince Albert had given voice at the opening of the Crystal Palace in Hyde Park in 1851 were before their time—"this example of natural materials, made possible by reason and formed by art".¹ This important statement by a royal authority was not, however, to have any great effect for sixty years. The attack on the old order in 1884 for which Voysey and some others were responsible was, as he says, "the offspring of Science and the Prince Consort". The 1851 Exhibition gave a new impulse to the idea of use as a base for art. This theory of use was given effect when William Burgess, E. W. Godwin, A. H. Mackmurdo, Bodley and others came to see that nothing in or outside a house was so small that care and thought about it were unnecessary. Voysey himself made designs for furniture in addition to houses. and for wall-papers, printed linens, silver and glass.

Of the great number of houses planned and put up by him the best in my opinion are Broadleys, Windermere (1898), The Orchard, Chorley Wood, Herts (1900), The Homestead, Frinton-on-Sea (1905), and Littleholme, on the Hogsback, Guildford, Surrey (1907).

Broadleys (ex. 2) is high up on the side of Windermere, facing west, with views over the mountains. Its walls are of stone mined nearby, rough plastered on the outside and roofed with green slate.

The windows have iron frames and leaded lights. All the woodwork is in natural oak. The Orchard, Chorley Wood (ex. 3), was for some time the architect's house. It is 400 to 500 feet over sea-level in an old garden of fruit trees sloping to the E.S.E. and with lines of low trees round it. No other buildings may be seen from its windows. The solid brick walls are faced outside with an inch of plaster. The floor of the room for meals is made of $1\frac{1}{2}$ inch Delabole slate on concrete which is put down on the chalk. The inside walls are coloured white and all the woodwork is painted a bright white. There was no electric power in that part of the country when this house was put up, so that the lighting is by oil. There is no need for a second look to see that these examples are marked with the simple self-respect of their designer. As he says himself, "the sense of order given by wide spacing and the quiet agreement of all parts has in it a suggestion of being safe, open, simple and self-controlled.... We do not naturally put a high value on being simple ourselves. To have gone on long journeys and to have seen much, to be all-round and international in our tastes and complex in our behaviour is, to most of us, better than being simple in ourselves and in what we do, a quality which in these days is hard to come by and for which force of mind and free thought is very necessary."¹

CHARLES RENNIE MACKINTOSH (Glasgow)

4, 5. *Windyhill, Kilmacolm, Renfrewshire* (1900)

Charles Rennie Mackintosh (1869–1927) was a Glasgow man and had his training there, chiefly at the Glasgow School of Art where, in 1890, he was given the "Greek" Thomson Travelling Scholarship which took him to France and Italy. He came back to Scotland with a full knowledge of building in those countries but when, as a young man of 25, he took first place in the competition for the new buildings for the Glasgow School of Art, it was for a design surprisingly free from the old tricks of the trade. This building

(complete in 1909) is a noted landmark in the history of design. Its effect is dependent not on a full-dress use of the "Orders" or the letter of past forms but on the structure and development of its plan and the straightforward use of its materials. Outside there is a band of simple workroom windows across the long front. The side wall is solid but for a band of six upright windows, three of which are taken up like straight-sided glass columns against the pointed roof-end. The design is without question Scottish in quality and feeling. The tall growth of the overhanging windows puts one in mind of the top structure of Craigievar. Inside, great use is made of unpolished wood, brick and stone. The unornamented square columns of the library, the simple beamed ceilings and the workroom windows ceiling-high are all signs of Mackintosh's feeling for the "simple intime", that quality in buildings of being simple and natural as men and women sometimes are. Mackintosh is best noted for his house and room designs, but to most his name has in it a suggestion of high-backed chairs and those little flowering trees which had a part in all his pen pictures. But these are details, signs of the "art nouveau" and in no way representative of his serious art. His houses go back three hundred years for their simple Scottish qualities, to Barra and Druminnor and the farm buildings of Perthshire and Argyllshire. His three best houses, all of them "harled", that is to say plastered in the Scottish way, are Windyhill, Kilmacolm; the Hillhouse, Helensburgh, and Houshill, Nitshill. The Hillhouse is a very able design; the windows, other than the wide stretches of glass for the sun-rooms, are small in relation to the wall space. The different effects of sloping roofs and flats give the house its special scale. Windyhill, Kilmacolm, near Glasgow (exx. 4 and 5), was designed for William Davidson in 1900. It is clear from this one example that Mackintosh's sense of planning was uncommonly good. But one is forever seeing his chairs and nothing at all of his plans, which are in fact very hard to get. I am in debt to Mr W. A. Jack of Glasgow who has had this house specially measured for me. As in all his work the plan and the massing of forms are seen at

one and the same time and his inside steps, for example, in place of being covered up by the walls are kept open as a chief point of the design. In Windyhill there is a specially good relation between the hall, front door and steps and, as the camera makes clear, a great amount of care and thought has gone to the play of light in these spaces. Outside, the massing on the slope, the grouping of windows and the unbroken lines of roof say much for his feeling and his eye for the great qualities of the old Scottish farmhouses.

It was not long before his work was the cause of great interest in Europe. As early as 1900 he was requested to put his designs on public view in Vienna and other towns. His helper in connection with all these events was Mrs Mackintosh (Margaret Macdonald). A work which came from his relations with Vienna was the design for a music-room for Fritz Werndorfer. The sharp eye of Alexander Koch quickly saw the quality of Mackintosh's work, as it did that of other architects of the new British school, and to this day the only book on Mackintosh is one in German from Koch's printing works at Darmstadt.

From 1910 to 1915 Mackintosh was architect head of the Glasgow School of Art. Then the war put an end to his development. When it was ended it was over-late to take up the threads again.

GEORGE WALTON (London)

6. *The White House, Shiplake, Henley-on-Thames* (1908)

George Walton (1867–1933) was a Glasgow man, painter and architect, and went to the Glasgow School of Art some time before Mackintosh. With James Guthrie, Lavery, D. Y. Cameron, Craig Annan and his brother, E. A. Walton, he was one of the "Glasgow School" group.

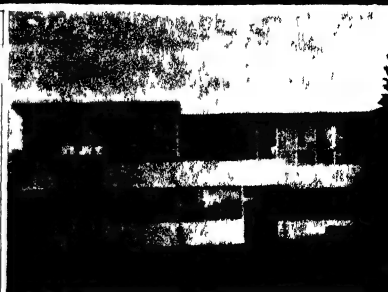
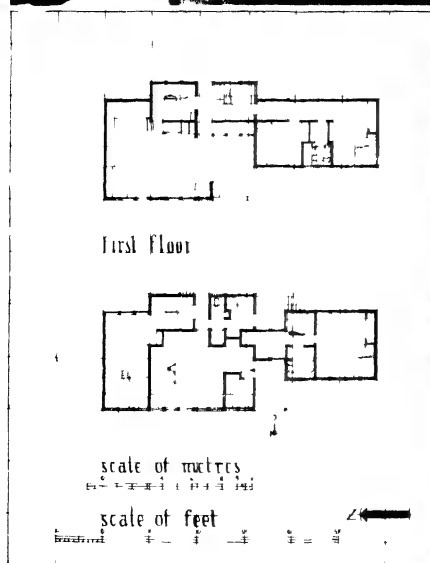
In 1888 he took a small works in Wellington Street, Glasgow, for the making of furniture and furniture materials, curtains and so on, for the houses which he was putting into order in different

parts of Scotland. General interest was caused at this time by the restaurant-rooms which he did for Miss Cranston in Glasgow. In 1899 he came to London, though he still kept on his Glasgow business for some time after. In London, through his interest in camera work, he came into touch with George Davison of Kodak and was given the designing of a number of stores and picture-rooms in London and most other great towns in Europe. The store in Brussels is the only one which has not been touched: with the new organization of the Kodak Company most of the others have gone completely.

In 1901 he put up a house at Elstree—The Leys—with a most interesting and uncommon plan, and another at Ryde in the Isle of Wight. The White House was put up in 1908 for George Davison, and he was later responsible for a second house for the same owner in Plas Wernfawr, Harlech. With the end of peace in 1914 his work came to a sudden stop, and after 1915 his chief business was the planning of meal-rooms and restaurants for war-workers. After 1918 he took to the painting of wall-pictures and windows again, and for three years made designs for James Morton, the great cloth-maker. He was far from well by this time, and in 1931 his last work was a building in memory of George Davison at Cap d'Antibes—the little church of St George.

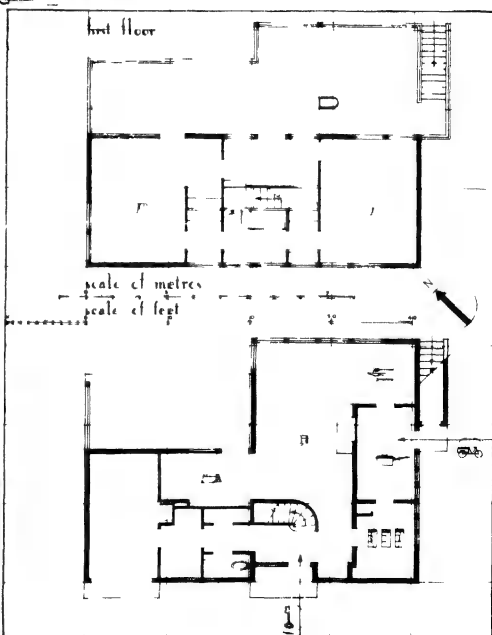
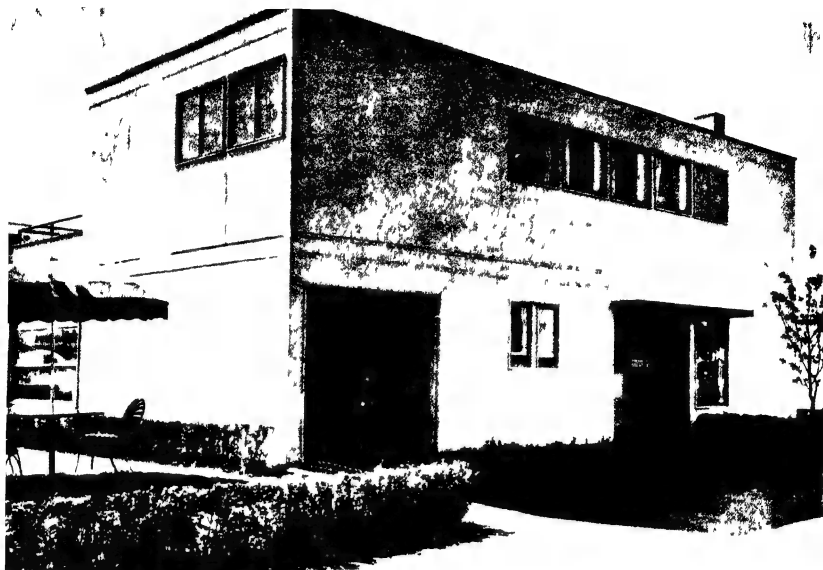
Walton's work, like that of Voysey and Mackintosh, was something more than playing with four walls and a roof. There was no d-tail which was not important to him: furniture, silver and glass were all given as much attention as the house itself and designed with a clear and well-balanced invention which made him respected overseas in Holland, Germany and Austria, where his name is still recorded and his effect still present.

We are in debt to George Davison for the best and most complete example of Walton's work—The White House (ex. 6) which was put up for him at Shiplake by the side of the river. Walton did the designs for everything—furniture, floor-coverings, glass, silver, and the garden. It is a beautiful house, George the Third in feeling and at the same time new in planning and full of qualities special



Example 43

*Richard J. Neutra (Los Angeles).
V. D. L. Research House, Silverlake, Los Angeles (1933).
The living room at night and views of the waterfront and
east front.*



*John C. B. Moore and Gilbert Rohde (New York).
House at Chicago Century of Progress (1933).
The street front and the living room.*

to himself. The balconies are uncommonly well designed in their delicate relation to the mass, and the glass doors stretching from floor to ceiling at the foot of the chief steps are very near to those glass walls facing on to gardens which are such a special point in most of our present-day houses.

BAILLIE SCOTT & EDGAR BERESFORD (London)

7. *Westhall Hill, Burford, Oxon.* (1921)

Baillie Scott (1865–) had his first experience as an architect in the office of a Bath architect named Davis, and made a start for himself about 1890 in the Isle of Man. When a young man he was placed first in a competition in Germany for a design for “An Art-lover’s House” and the plans for this were printed by Alexander Koch, who was responsible for the *Deutsche Kunst und Dekoration* and *Innen-Dekoration*, and had then a great effect on house-building generally. At that time the true qualities of English house-design were valued as much overseas as they were in England, and Germany had a very high opinion of Baillie Scott as an architect representative of everything best in English building. Before 1900, as an outcome of the competition, he had been given the designing of a house for Queen Marie (then Crown Princess) of Rumania, and furniture for the Darmstadt house of the Duke of Hesse.

Between 1903 and 1914 he had his office in Bedford and among the houses designed by him at this time are Greenways, Sunningdale; Undershaw, Guildford; The Cloisters, Avenue Road, London, N.W.; and Waterlow Court in the Hampstead Garden, a system of houses all opening on to the same square as in a university college. In addition to these English examples he was responsible for houses in North America, Poland, Switzerland and for a flat-roofed house in Peru.

From 1918 he has been working with Edgar Beresford (1880–) who has been in his office from 1905. As architects they have

been interested chiefly in house-design and their work, as much as that of any other architects to-day, is based on a living feeling for ways of building natural to our country. Their houses are untouched by present developments overseas, developments which were at one time in debt to their early examples of the English plan.

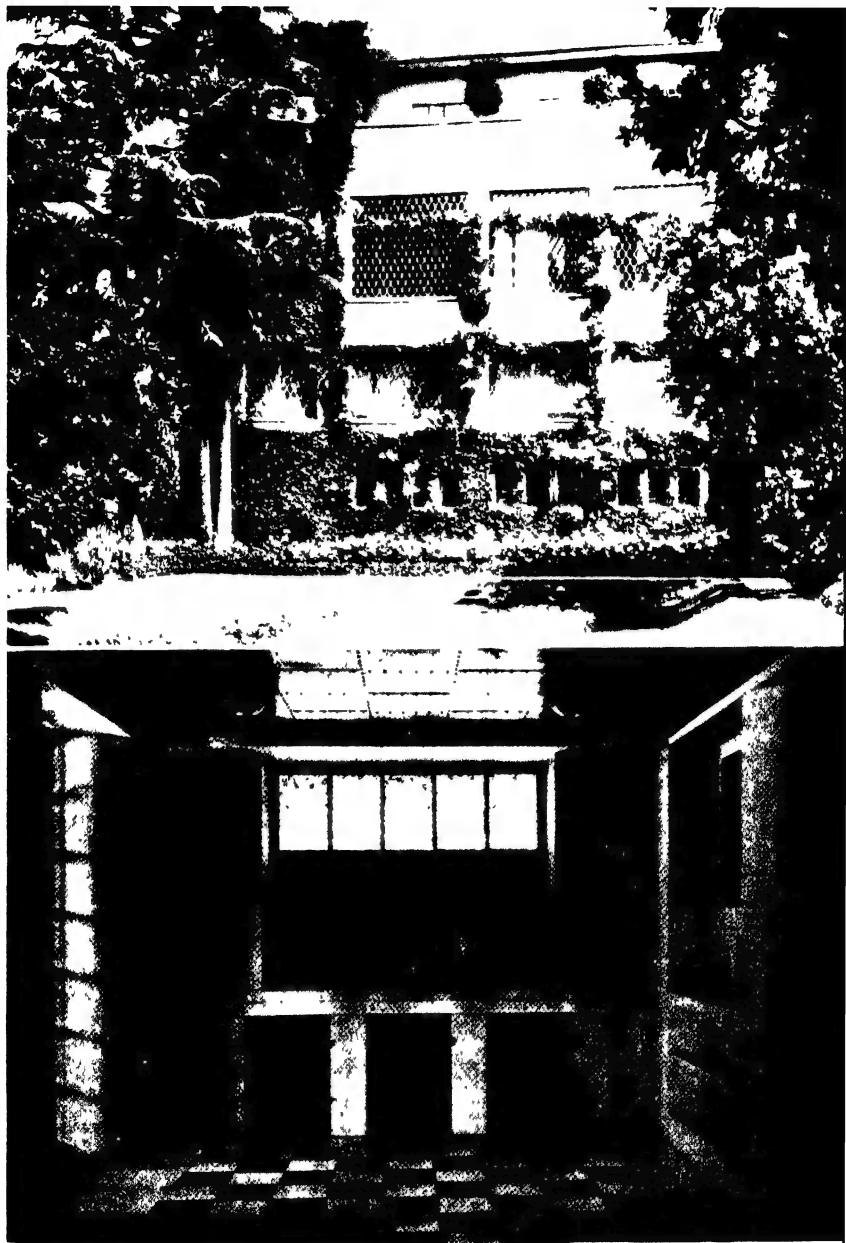
Westhall Hill (ex. 7), with views of the beautiful old Cotswold town of Burford, is an example of the best sort of new building on old lines. House, outbuildings and garden are all grouped with expert taste. Inside there is a long low living-room at two levels which is an attraction of this sort of country-house. Roof and walls are in Cotswold stone. In fact, stone for stone the house is in quiet harmony with the country round it. But the building of houses in material natural to their positions is not in itself an insurance of quality. The new house has to come, and in good hands it will be right, even in the Cotswolds, because in these days there is no quiet place, and no unchanging country.

ADAMS, HOLDEN & PEARSON (London)

8. *House at Holford, Somerset* (1923)

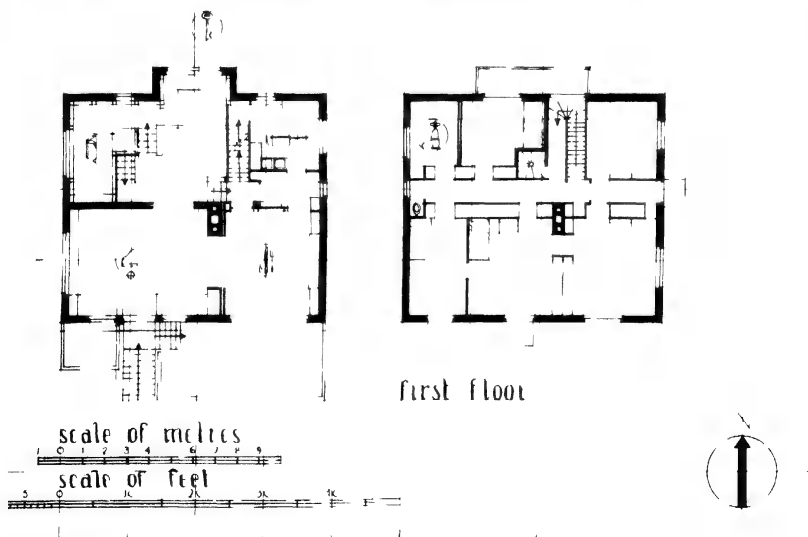
In 1913 the business of the late H. Percy Adams (1865–1930) and Charles Holden (1875–) became Adams, Holden and Pearson. Charles Holden and Lionel Pearson (1879–) had their early training in the offices of Manchester architects. Adams was the son of a medical man and as a young architect had made a name for himself as a designer of hospitals. Joined by Charles Holden the office undertook a wider range of work. They were freer and clearer in their design of public buildings than any other English architects before 1914. The British Medical Association building in the Strand, London (1908), is first-rate for its time and Jacob Epstein's "Stages of Man" are still among the best examples of the use of the stonecutter's art in present-day building.

55 Broadway, the offices of the London Underground, is their



Example 45

*Adolf Loos (Vienna).
House on the Geneva waterfront (1904).
View from the waterfront, and the hall.*



most noted building. The work on it was ended in 1929. This station and office building, ornamented again by the much-attacked works of Epstein, has a specially English quality about it, in the line of Nash and Soane. For its size it is quiet and untouched by any desire for effects.

Charles Holden is noted among millions of Londoners for his Underground Stations. The best of these is the Southgate Station and Stores, where the round station structure has a middle steel-concrete column which, like the stem of an umbrella, is the chief support of the roof. The curving store buildings have that same smooth skin-tight quality of form which is a good point of the work of Oud.

Holden has been given the designing of the new buildings for the University of London, work on which has started. At this early stage it is not possible to say if it will quite come up to the hopes of those young architects whose guide he has become.

Adams, Holden and Pearson have put up only a small number of houses, and the best of these is certainly the House at Holford, in the Quantocks (ex. 8). It is in Somerset stone with a roof of Cornish slates. The tightly made plan inside four solid walls of marked West of England quality, gives no sign of a Corbusier in the wings.

SIR GILES GILBERT SCOTT (London)

9. *Chester House, Hyde Park* (1925-26)

Sir Giles Gilbert Scott (1880-) had his training with Temple Moore and as a young man of 23, stepping in the Gothic footprints of his father's father, was placed first in the competition for a design for Liverpool Cathedral. He had had little experience, so G. F. Bodley became responsible with him for the general work and in July 1904 the first stone was planted by King Edward. This great attempt at a second and truer Gothic Revival is still far from complete. While it has been slowly massing itself over

Liverpool—like the headstone to our great Gothic past—its architect's ideas and theories have been undergoing a twentieth-century change. The Cathedral by reason of its great scale is necessarily a general statement in a fixed form, but Chester House (ex. 9), the architect's house in Hyde Park, and the Clare College New Building at Cambridge are examples of qualities special to himself and the freer conditions of the present day. In these a form of Renaissance building has been attempted, but the twentieth century and the Renaissance do not seem to get on very well together even in such first-rate designs as these, which somehow have the quality of a machine-made Renaissance. In Chester House the limits of the town position have a crushing effect on the design, and the plan is all but a protest against the need to be in harmony with the balance of the outside. But this grey brick building with its well-spaced windows, its simple steps, delicate detail and little street garden does have the quiet authority of a great architect. The structure is in brick with stone dressings and window frames in wood. The floors are all steel-concrete. Chester House is in agreement with its architect's words: "Let us do all things in measure, even if in these commonplace times there is more money in being surprising; let us take care not to make overmuch use of the machine, and let our purpose be quality and not simply a new effect, so that we may make buildings which are not only good in operation, use and purpose, but in addition delicate and beautiful."¹ The same control of feeling is to be seen in the New University Library at Cambridge and the Battersea Power Station. Sir Giles Gilbert Scott is now at work on the new Bodleian Library at Oxford. The conditions of putting a new building with new apparatus and organization side by side with the greatest works of the past are certainly a test hard enough for any architect.

RAYMOND McGRATH (London)

- 10. *Finella, Cambridge, for Mansfield D. Forbes* (1928–29)
- 22. *Rudderbar, Hanworth Airplane Field, Feltham* (1932)
- 24. 14 *Bell Moor, Hampstead* (1932)

The year of my birth was 1903. The place was that Pacific town of Sydney, Australia, with its blue skies and blue waters. My first love was for the Macquarie buildings of which there are good examples in Sydney, Richmond and Windsor. The architect for these was Francis Greenway, who was made government architect by Macquarie in 1816 and given a good 3s. a day for it. He had been sent there from Bristol in 1814 for fourteen years because he was unable to make full payment of his debts. He may have had no money, but he had uncommon good taste. He put up a number of great churches—St Matthew's, Windsor; St James's, Sydney—with all the qualities of St Paul's, Covent Garden, that great work of Inigo Jones which in the dark air of London has the look of another Parthenon. Every house he put up was first-rate. If present-day building in Australia kept up the quality of the best examples of such early work as this—Burdekin House, Subiaco, Clarendon, Riversdale, Greystanes—that country would be equal to any in the art of building.

But in Australia, as in every other place ruled over by Queen Victoria, this important art became less an art than an unnatural growth on the body of the country. The Macquarie forms were overlooked. Hardy Wilson, that strange architect and writer now farming in Tasmania, was one of the first to take them up again and his one or two houses of the Macquarie sort have much of the quality of those great examples. It was he, by the way, who first saw the Chinese touch in Greenway's buildings—a surprising but quite natural development in a Pacific country.

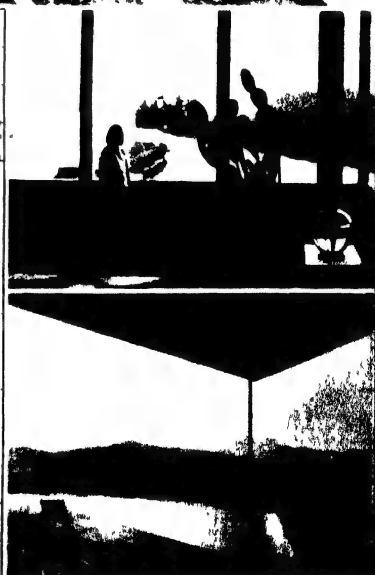
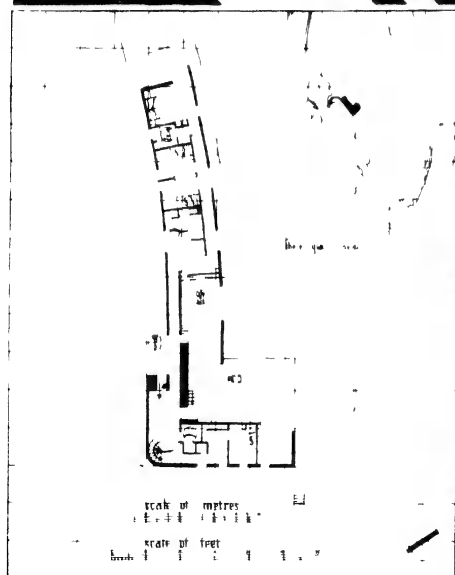
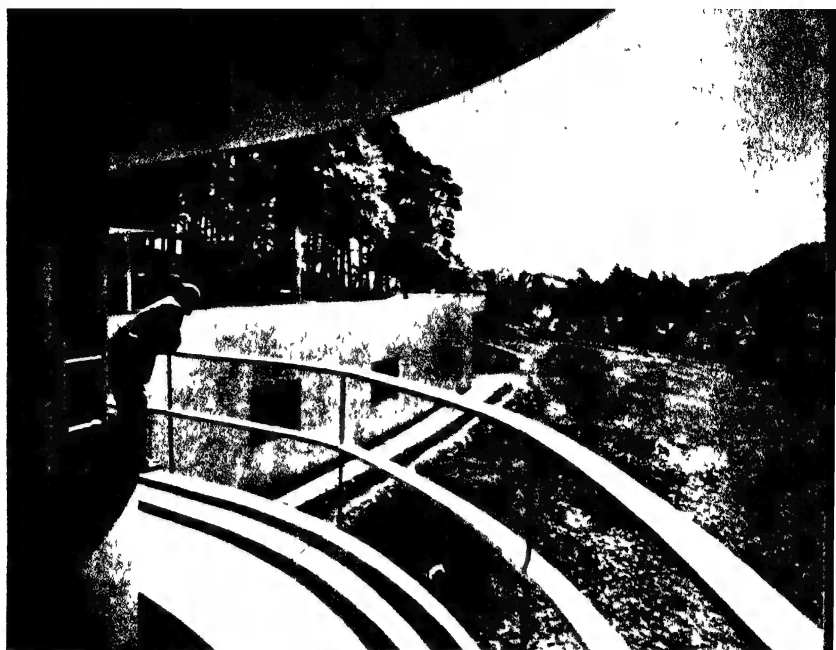
China was my second love. Her art and outlook seemed better to me than those of the West. I had a feeling that there was something new and special to myself in this wise and certain art.

Professor Leslie Wilkinson (ex. 33) was head of the school for architects at Sydney where I had my early training. He was a good architect and an able teacher, and had a deep knowledge of the Renaissance in Italy. And so Tuscany—or Brunelleschi—became my third love. Coming to Europe for the first time in 1926 I went to see Brunelleschi's works in Florence, among them the Badia at Fiesole, that great simple building which is still as bright and new as it was in 1425.

At Cambridge my first friend was Mansfield Forbes and our first meeting was over a floor full of pictures of those beautiful Scottish buildings—Craigievar, Midmar, Castle Fraser. No one is his equal as a friend and no one has such a power of firing others with new ideas. It was he who made me see that the best quality a house may have is, as he said, the "simple intime". Between us the idea of Finella slowly came into being, and at last in 1928 the decision was made to give it material form.

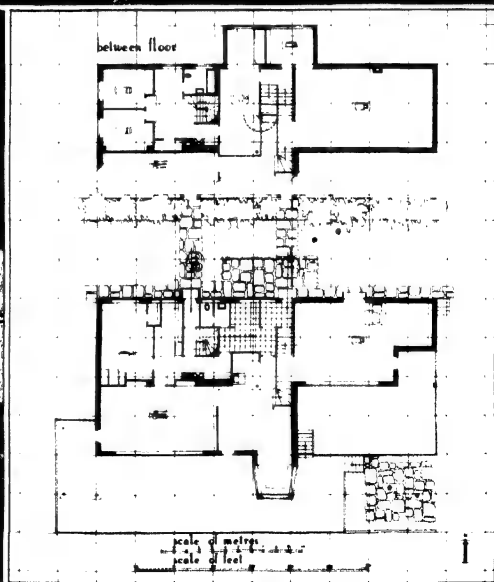
A Cambridge house about eighty years old and then in poor condition was taken and, without any important changes of structure, turned into one in pleasing harmony with its beautiful garden and the trees all round. Unnecessary woodwork was taken away from its walls, and the yellow-grey bricks coated with a light red wash. The old church doorway gave way to a delicate structure which let the light into the hall. The house was terraced up from the garden and one or two trees cut down. The effect was a house which was light and simple outside and well in keeping with the more unconditioned designs inside.

It was necessary to make only one or two changes in structure inside. The hall was roofed with green glass, its walls covered with metal leaf, and the floor done in a polished black mixed substance of wood powder and asbestos. At the far end the wall was completely covered with gold-leaf glass through which there was a door opening into the south of two rooms joined by folding copper doors. Glass of different sorts and colours was used in the room for meals, the coat-room off the hall, and the three bathrooms. All this glass was designed in relation to the lighting, and



Example 47

*Lois Welzenbacher (Innsbruck).
House Rosenbauer, Linz, Donau (1929).
Views south-east to the Danube from
balcony, living room and roof.*



*Josef Frank and Oskar Wlach (Vienna).
House B, Vienna XIII (1930).
The north front and the south front.*

between them they gave the house a feeling of clear space and delicate colouring by night and by day.

Finella without Mansfield Forbes would only be half a house. It was designed for him, and to say anything about it without touching on the reason for its existence is not possible. Mansfield Forbes has a number of interests any one of which is normally enough for one man, and chief of these is that of getting men and women together and making possible a free and natural exchange of ideas and humour and work. Finella was designed to be such a meeting place, and in its short history has certainly seen the birth of a number of new ideas and important organizations.

Finella was something separate and special to its purpose. It was an attempt in adjustment more than in new building—though the materials used were chiefly new—cellulose, glass, machine-made substances. Some little time before I took the position of Decoration Consultant to the B.B.C., I saw in Paris the Section Allemande, Exposition de la Société des Artistes Décorateurs, 1930, of which Walter Gropius was the architect. This was an experience which I will certainly keep in my memory for a long time. The quality and interest of this work, a sort of account of the developments in design, was surprising.

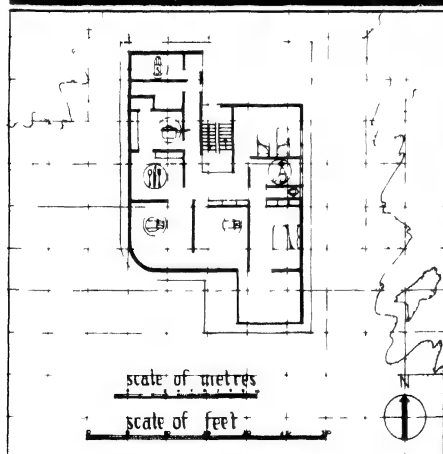
My second serious attempt in house-design was a house for an airwoman. I had seen in England a slow change in ideas of building in that year or two. Finella was looked upon as a test of certain new materials and an attempt at inside design, but at that time there had so far been only one or two completely new houses put up in this country. But there had been a change of heart and outlook. Rudderbar (ex. 22) was a design for a house and airplane-house on a position near the Hanworth airplane field, and as there were no houses near it my design was more or less unconditioned by any need to take other buildings into account. That it was to be in steel frame and brick with mosaic facings was an outcome equally of the plan and the organization for its quick building. The airwoman owner was to make an attempt at a new record for keeping in the air for the longest time. At the start of the

flight the first brick was to be dropped from the air. The building was then to be put up as quickly as possible so that when she came down at the end of her flight she was to be able to put her machine away and go into the house waiting ready for her. Why this did not come off is a long story.

The design has a number of interesting points. The glass walls at the curved end of the living-room and the glass-walled, screw-form steps were to make it possible for the owner to see the comings and goings of the airplanes, and at night these screw-form steps were to be her guiding light when in the air. Possibly the country-house of the future will have some such special light for guiding anyone going to it by air. Fifty years back the house had its carriage-house; now it has its automobile-house; to-morrow why not its airplane-house?

At present I am putting right a house in Hampstead which was first put up in 1720, but had got into a very bad condition. Its loss would have been a great blow to the old-time look of that part of Hampstead. It is a memory of the past and representative of what most architects have to take into account when building by the side of good houses of a different time. It would not be hard to get out plans, bright and new like the airplane-house, for a completely new position such as is desired for the Hundred New Towns. Corbusier says, "Everywhere may be seen machines which make things and make them very well in a clean sort of way, but the machine we are living in is an old carriage full of disease."¹ But it is not so simple to put a house truly representative of to-day by the side of one 200 or 300 years old. With unlimited powers of invention one might do anything, but these powers are not so common as they might be. However, it is possible to put a new house into happy relation with an old one without acting history or, in other words, attempting to get on the right side of Father Time with a Gothic detail or two.

There are new Gothic flats in Hampstead with leaded windows over-small to see the wide view of London before them. Ex. 24 is the living-room of a flat in such a building. Some time or other

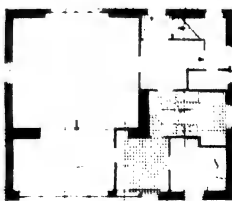


Example 49

*Lois Welzenbacher (Innsbruck).
House Treichl, Innsbruck, Tirol (1930).
The south front with mountains at the
back, and a detail of the balconies.*



first floor



scale of metres

scale of feet



every architect has the work of putting new wine into old bottles. It is at least a good test of his sense of humour.

H. S. GOODHART-RENDEL (London)

11. *Le Mas des Roses, Mougins, France* (1929)

H. S. Goodhart-Rendel (1887–) is Slade Professor of Fine Art at Oxford and is noted for his humour and good taste as an architect, writer and talker. His most interesting and important work is Hay's Wharf (1931) by London Bridge on the south side of the Thames. Though it is true to its purpose in plan and design this is a surprisingly well-dressed building to come across among sailors and trading boats. On the north side the building has long bands of office windows. A great frame, designed by Frank Dobson, picturing the business of the waterfront, is put round the Committee Room and Common Room windows and is like a strange flag hanging three floors high.

Goodhart-Rendel, in addition to his English work, has been responsible for a good number of houses in the south of France. Le Mas des Roses (ex. 11) is at Mougins on a sharp-terraced slope facing E.S.E. with wide views over the Riviera. Its walls are in rough stone, plastered and coloured a light yellow, and its floors in metal and brick covered with concrete squares in different colours. The windows are wood-framed with shutters and metal screens to keep out insects. The owner of the house is Countess Russell, writer of *Elizabeth and her German Garden*, by whose expert hand the garden has been designed. Opening off the hall there is a special room for the arrangement of flowers for the house.

ROBERT ATKINSON (London)

12. *Undertown, Trebetherick, North Cornwall* (1930)

The work of Robert Atkinson (1883–) as controller of education in the Architectural Association Schools of Architecture is common

knowledge in this country. His responsible direction has given an impulse to a great number of architects trained in these schools. I still have in mind the interest which was caused generally by his Regent Cinema at Brighton fifteen years back—a theatre, restaurant and roof-garden in one, which with its bright colour and its paintings by Walter Bayes was a great step forward in what was a new branch of work at that time. His simple and quiet design for St Catherine's Church at Hammersmith is an equally good example of his work in another field.

Robert Atkinson's houses are all happy examples of his true feeling for natural building in harmony with the countryside. He has kept clear of new materials and made no attempt at anything outside the regular range. I would put down as good examples of his work his two houses at Trebetherick—Grey Ladies—with white-washed stone walls and slate roofs; his whitewashed brick house named Whitebarn at Oxted (1933), and Undertown, Trebetherick (ex. 12). Undertown was put up near the mouth of the River Camel for Mr Betjeman, father of the good-humoured writer of *Ghastly Good Taste*. Again it is a house in materials natural to that part of the country, whitewashed Cornish stone, rough Cornish slates, with doors and other woodwork in natural elm-wood.

OSWALD P. MILNE (London)

13. *The White House, Bosham, Sussex* (1930)

Oswald P. Milne (1881–) was for a time in the office of Sir Edwin Lutyens. He has been responsible for works as widely different as the additions to Claridge's Hotel, designed for the amusement of ornaments of society, and the School of Dancing and the Cloth Works at Dartington Hall School, designed for responsible education under natural conditions.

The White House (ex. 13), like the buildings at Dartington Hall, is English almost to the point of being uninteresting. But it is a good bit of work putting on no airs of any sort. It is among old fruit trees and is in brick faced with rough plaster.

F. E. TOWNDROW (London)

14. *Forsyte, Hockley, Essex* (1930)

This house at Hockley is a serious attempt at building to a given size for the least money possible. For that reason different sorts of structure were first tested, and it was seen that the best value at that time was in a structure of 9 inch solid brickwork with an outside facing to keep out wet. By using a cheap flat roof it was possible to put on another floor and take in a sun-room which was used in addition as a play-room and for dancing. The fall of the roof is to a drain across the middle of the flat. Windows and doors are in mass-made units, not special designs or sizes. The windowed front is on the south garden side. The bedroom window on the angle has a view of the sea.

FRANK SCARLETT (London)

15. *Starlock, Rye, Sussex* (1930-31)

Frank Scarlett (1900-) was trained at London University and the Atelier Pascal, Paris. From 1925 to 1928 he was working in Dublin with Professor Butler, and in 1929 went to America into the offices of Harvey Corbett of New York. In 1930 he did the designs for Starlock (ex. 15) and this year for Four Winds. The house Starlock is in a position facing across Romney Marsh to the sea and at the back of it is a high slope with thick undergrowth. In front the garden goes quietly down to the road with a screened footway to the automobile-house under the workroom. The hollow walls are in brick with steel-concrete balconies. A special point of the design is a living-room two floors high, the connection between the bedrooms being by a balcony going through it. This may not be the most private system, but in a small house it gives a good feeling of space.

SIR JOHN BURNET, TAIT & LORNE (London)

16. *West Leaze, Aldbourn, Wiltshire* (1931)

Thomas S. Tait (1882-) is a Scotsman trained in the Glasgow School of Art and in the office of Sir John Burnet (1857-), the noted Scottish architect of the Kodak Building in Kingsway, the additions to Smirke's British Museum, and that Casino of Trade—Selfridge's. True through everything to the massed weight of Rome, he gave it a new purpose as the servant of Business. Adelaide House (1924), by Sir John Burnet, Thomas Tait and David Raeside was one of the first attempts in London at office-building on a great scale. After Adelaide House there were three or four attempts which did not quite come up to what was hoped of them, the most noted of these being Unilever House. Then the office got down to a number of serious responsible designs, chiefly in brick, the best of which were for the Royal Masonic Hospital and Mount Royal, Oxford Street. In planning, massing and structure the hospital is an example of everything which is best in present-day building, a truly great work in every way. Mount Royal is almost as good in its feeling of scale and its strong, straightforward, quiet quality as the self-respecting unit of an important street of a great town. My only regret is that the detail is so poor in the middle of its chief front. Its long simple lines put the rest of Oxford Street to shame. For buildings like it one has to go to the eighteenth-century brick terraces in quieter parts of London which, with their low parallel lines and unnoted uprights, are in pleasing harmony with the line of street and square. A comparison between Selfridge's and this latest work from the same office is interesting. Selfridge's is a law to itself. Its massed columns are there to put the shop-walking uplift of Callisthenes into the heart of the Londoner.

West Leaze, Aldbourne (ex. 16), is well placed on the south slope of the Wiltshire Downs. Its hollow walls are in brick with concrete balcony and beams. The roof is boarded and covered with canvas and asphalt, while the floors are in polished squares of crushed cork. The walls are colour-washed a light red.

EDWARD MAUFE (London)

17. *Yaffle Hill, Broadstone, Dorset* (1931)

Edward Maufe (1882-) had his training at the Architectural Association and in the office of William A. Pite. As an architect he is noted most for his churches, the best of which is probably St Saviour's, Acton, where the Chaplain's House (1925) is specially interesting for its quiet Christian brickwork and the expert way in which it has been joined up with the mass of the church to the north of it.

Yaffle Hill (ex. 17) is on a slope falling south to the sea near Poole. Its hollow brick walls are plastered white under a roof of Chinese blue. The design is balanced almost to a hair, and for this reason and because space was limited I was able to do without half the picture in the example of it. A looking-glass placed at right angles to the left edge of this picture will give you the full effect.

It is the plan and the relation of the chief rooms which is so good. The room for meals with its polished limestone floor and with the theatre-like quality of its screened lighting is a sort of stage at the end of the living-room. The living-room itself has a long low fireplace with a frame of polished steel, and metal furniture. The library workroom is designed for comfort and quiet with a fire put well back, a long seat on one side of it and a screen wall of bookshelves on the other. The attention to colour and the selection and placing of the furniture, much of which is a fixed part of the structure, are signs that the architect and the owner—Mr Cyril Carter, the noted Dorset potter—had no doubt about what was most to be desired. Mr Voysey made the point that there is no special living-room in his house at Chorleywood; it was all a place for living in. The same may be said of Yaffle Hill.

The numbers on the plan are representative of these different divisions: 1. Workroom. 2. Room for meals. 3. Living-room. 4. Servants' living-room. 5. Cooking-room. 6. Food store. 7. Automobile-house. 8. Heating apparatus. 9. Coal. 10. Instruments. 11. Bedroom. 12. Workroom. 13. Bedroom. 14. Ser-

vants' bedroom. 15. Servants' bathroom. 16. Servants' bedroom. 17. Bathroom. 18. Bedroom. 19. Linen. 20. Bathroom. 21. Bedroom.

WILLIAM WALTER WOOD (London)

18. *White Walls, Torquay, Devon* (1931)

W. W. Wood (1896-), a Nottinghamshire man, had his early training at Nottingham University College and School of Art and the Architectural Association School. From 1926 to 1928 he was a Professor of Building at the Royal College of Engineering in Cairo. Oversound House, east of Plymouth Sound, which he put up for himself in the spring of 1930, was an early attempt—in England at least—in the use of concrete in house-building. After Cairo, where flat roofs are general and commonly used for meals and sleeping out, he had no feelings against that form of structure. Oversound House is very simple in planning, being almost as square as a box and a little Egyptian-looking, an effect which was probably at the back of his mind in building it. The concrete is used in the form of building-units.

The house at Torquay (ex. 18) is more delicate in design. It is on a sharp limestone slope facing south. As with Oversound House the structure is in concrete building-units. The living-room and the room for meals (which, like every room in the house, has a south outlook), have openings on to a terrace. There is a fifth bedroom on the roof. The house has only two fireplaces, there being a water system of heating with flat heaters in the walls.

JOHN C. PROCTER (Leeds)

19. *Kirkby House, Kirkby Overblow, Yorkshire* (1931)

John C. Procter (1882-), brother of the painter, is a Yorkshireman from Acomb near York, and had his education in that part of England, at Leeds University and College of Art and in the office

of W. H. Thorp, an architect of that town. From 1915 to 1919 he was, as he says with dry humour, hard at work on the observation of the "effect of gun-fire on buildings". In addition to his buildings for Leeds University he has done designs for a number of country-houses, most of which are good Regency (with their curved-out windows and delicate columns) mixed with a touch of Bruno Taut and Lurçat (the angle windows and flat sharp skyline). Their one error seems to me to be the way in which round-headed windows are put into designs which have no business with arches. Procter's first Neo-Regency house was Five Oaks, Ben Rhydding, Yorkshire. It is in brick with its flat roof and floors in concrete. The garden front with its two curved-out windows joined by a solid balcony is first-rate in design.

Kirkby House (ex. 19) seems to me his best work. It is on a sharp slope looking over a beautiful stretch of Wharfedale. The structure is brick with a coating of plaster. An interesting point in the design is the sun-room between the two smoke outlets on the roof. The house has a base of stone, and this and the stonework of the great terrace wall on the garden front are in happy relation to the smooth plaster. Whatever John Procter does in building in the near future will be interesting and even surprising.

GEORGE CHECKLEY (Cambridge)

20. *Thurso House, Conduit Head Road, Cambridge* (1932)

George Checkley (1893-) is a New Zealander by birth. After being with the New Zealand forces in the war he went to the Liverpool University School of Architecture till 1922 and then for three years to the British School at Rome. On coming back to England he took up a position at Cambridge, teaching in the Faculty of Fine Arts till 1933. After four years of teaching he came to the decision that it was time he was building, and the first work which came of this was the White House, Madingley Road, Cambridge (1931). As a design it is good, though the

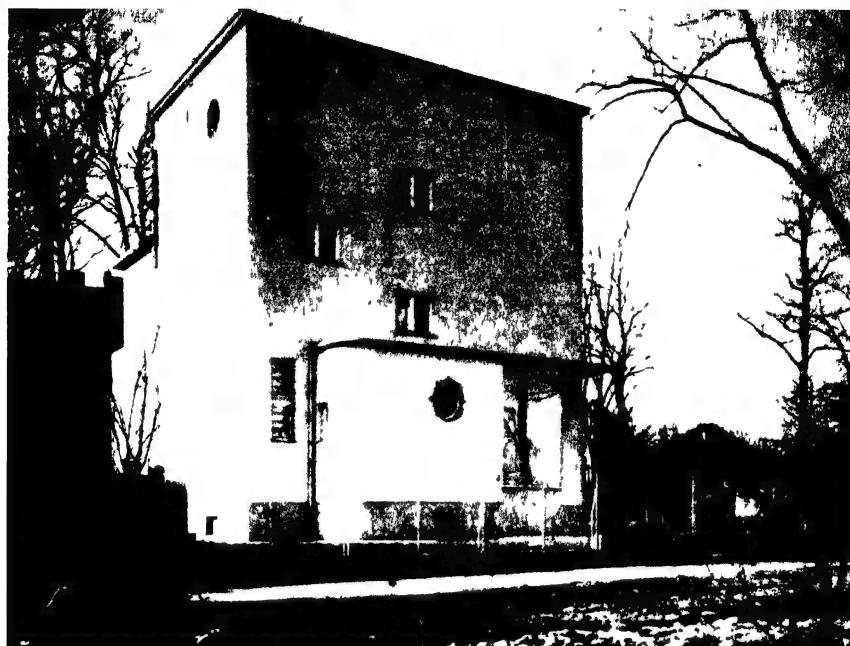
complete balancing up gives its feeling of rest a somewhat dead quality. The planning is first-rate and the structure interesting. It is framed, columns and beams of steel-concrete with brick walls plastered and coloured a light yellow. The heating is by oil-burner controlled by a clock for automatic starting at any fixed time. Thurso House (ex. 20) is freer in its design—a happy example of the value of simple form. In structure it is the same as the White House. These two houses are a much-needed addition to the small body of twentieth-century building in Cambridge.

A. D. CONNELL & B. R. WARD (London)

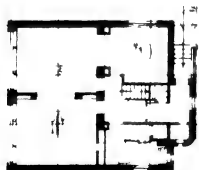
21. *Pollard, Grayswood, Haslemere, Surrey (1932)*

Amyas Connell (1901–) is a New Zealander, trained at London University and the British School at Rome. His house *High and Over* at Amersham, designed for Professor Ashmole, the Professor of Classical Archaeology at London University, put him almost violently before the attention of the public. Here was a house which made no attempt to be a natural growth of English earth. Its three-pointed plan, its far from regular spacing of windows, its wing-like covers over the flat roof-terraces, its general cardboard quality—these were all an outcome of the hard reasoning put into the design, reasoning in the interests of sunlight, outlook and general comfort. If we take a look at the plan it is not hard to see that the three points give angles for the sun and screens against the wind. In general detail the plan of *Yaffle Hill* (ex. 17) is the same. *High and Over* is no delicate statement. It is a thundering request for clear thought in all directions.

Viewed from the air, viewed from any angle some judges say, *Pollard* (ex. 21) is more like an invention by Picasso than a house. *High and Over* has a suggestion about it of Roman building, but *Pollard* is unlike any house, Roman, Renaissance or English. However, if there is any sense—and there certainly is—in Corbusier's argument that "the plan is the first cause; without a plan



First floor



scale of metres

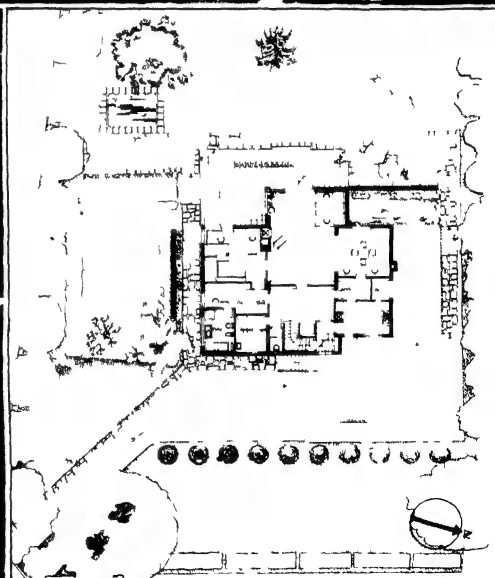


scale of feet



Example 51

Professor Siegfried Theiss and Hans Jaksch (Vienna).
House in Vienna XIII (1931).
The north front, south front and view from living
room.



*Armand Weiser (Vienna).
House Hilde Goldstein, Vienna (1932).
Views from the south-west and south-
east, and the living room.*

there is no order, no law", then there is much to be said for the direction the architect has taken in this design. It is a plan full of thought, not limited by the old ideas of balance. In outline it is a three-sided form with its sharpest point to the north-west. This form is made possible by the system of structure, a steel-concrete frame with 4 inch curtain walls of concrete faced inside with building board put up with the formwork. In such walls the windows may take any form in agreement with the lighting and outlook, and specially that long low form without strongly marked uprights which is so much in harmony with the long low lines of the present-day room. The house has a water system of heating, and the smoke outlet from this apparatus is taken up in a column as part of the structure of the chief steps, so keeping warm this glass-walled part of the building.

R. D. RUSSELL & MARIAN PEPLER (London)

23. *Lobden, Upper Colwall, near Malvern (1932)*

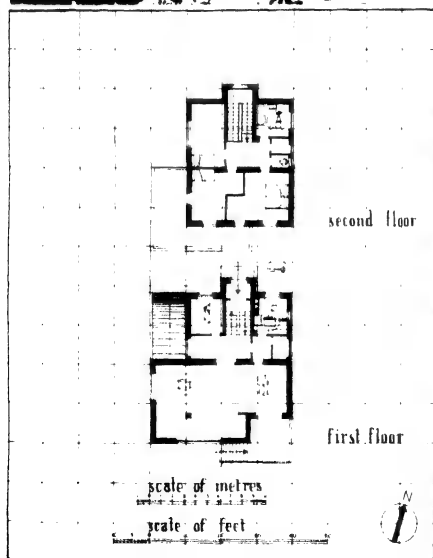
This light-red house by R. D. Russell (1903-) and Marian Pepler is placed high up on the south-west slope of the Malverns, looking across open country to the Welsh mountains. It is designed for a business man from the North of England, who at present is able to go there only at week-ends, but who will later be there all the year round. The structure of the house is in brick with hollow colour-washed walls, floors of Tasmanian oak and roof in steel-concrete with asphalt covering. The living-room is designed for the hearing of music in comfort, with radio and phonograph as part of its structure. The walls of this room are coloured light yellow, and the walls in the room for meals covered with Japanese grass-cloth. The sideboard is in the form of two shelves of plate glass by the opening to the cooking-room. The house has been designed as a frame for the view, and the south wall of the hall is covered with a 1 inch map of the countryside as seen from the west windows.

WALTER GOODESMITH (London)

25. *House overlooking Honolulu Bay, Hawaii* (1933)

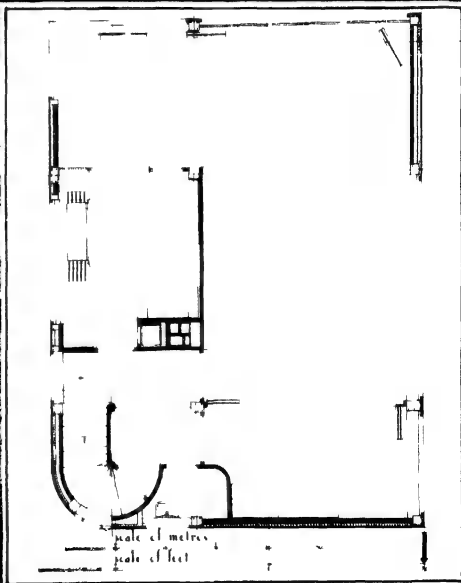
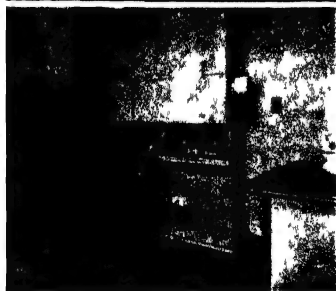
Walter Goodesmith first saw the light in Birmingham in 1903, but between 1914 and 1929 was in Sydney, Australia, where he was trained as an architect and engineer. In addition to his regular all-round experience as an architect he was specially schooled in steel structure and concrete engineering, and while in the office responsible for the building of the Sydney Harbour Bridge had first-hand experience in the works at a time of general unrest among steel-workers. In 1929 he was back in England, and in 1932 was placed first in a competition for a design for a steel-concrete church in which special attention was given to the right distribution of sound. For this he was given the "Travelling Scholarship" of the Institution of Structural Engineers which was turned to good use in a journey undertaken for detailed observation of concrete structures in Europe. One of his latest designs is for the planning and organization of the new Waterloo and Charing Cross Bridges, and the reasoned control of the roads and streets in connection with them for the better distribution of transport and the direction of the different currents taken by it.

He has ever been against the tendency to division between the architect and engineer, and has done his best by example and by writing to make it clear that their fields are truly one and the same, and that harmony in building is based on the harmony of their united forces working to a common end. In this connection his words on his experience as a military engineer are to the point. "When on military engineering work I had the feeling that however unimportant the work being done, for however long or short a time it was designed, with limited or unlimited material, the military engineer is in the position of a complete designer and planner quite free from the conditions of the private architect working inside the limits placed on him by the need for adjustment in relation to other buildings and examples and the desire for a certain effect. Though there have been great changes in the last



Example 53

*Fritz Reichl (Vienna).
House Dr. L. K., Vienna XVIII (1933).
View of the south front and detail of the
room for meals.*



ple 54

*L. H. de Koninck (Brussels).
House Canneel-Claes, Auderghem, Brussels (1931).
The living room, the cooking room, and the south
front.*

year or two, even in military engineering, and though architects are becoming increasingly conscious that the limits put on them in this way have frequently little relation to the purpose of the structure, the danger of letting oneself be forced by these limits into becoming a designer conditioned by a special selection of them and so working inside a narrow range and a narrow field is still very general. 'Specialization' of this sort is the cause of one-sided work and is responsible for the loss of balance in building generally. Let the architect and engineer be united again and all that will be over."

His house (ex. 25) at Honolulu, which, between the tree-covered mountains and the blue Pacific, is in as beautiful a position as it is possible for a house to have, is placed high on a slope falling away through trees to the sea. It has wide views of the ten-mile stretch of white buildings and dark green gardens round the curve of water. It is a small flat-roofed concrete house whose two wings, with a square of water between, are used for sleeping on the one side and for living and cooking on the other. The open planning of the hall gives a free connection between the two wings and keeps an equal current of air moving through the house. The building is on one floor, and from the hall curved steps take one up to the roof-terrace. The automobile-house is a part of the house-structure but between the two there is an air-lock keeping out any gas or smell of oil, and the housing for an autogyro is placed opposite it at a distance of 20 feet. There is a second door into the bathroom so that swimmers coming up from the sea are able to go straight into it without going through the house. The probable addition of a third bedroom has been taken into account in the plan. The walls, floors, roof and terraces are all in concrete. The complete house is tightly reasoned and planned for the free currents of air which are so necessary in the warm weather of Hawaii. In every way it is a good example of decision and care and of a clear feeling for the special needs of living in the Pacific.

C. H. JAMES (London)

26. 17 *Sherrards Park Road, Welwyn Garden City* (1933)

Charles Holloway James (1893–) was trained first at Gloucester and later in the offices of Sir Edwin Lutyens and Raymond Unwin. He is chiefly interested in housing developments, being in fact one of the ablest designers of the small, English, garden house. He is the writer of *Small Houses for the Community* (1923). His material is generally brick of which he makes first-rate use as may be seen in ex. 26. This is a house at Welwyn Garden City which, like Letchworth, is an attempt at a garden town after the ideas of Ebenezer Howard. C. H. James, with Charles Murray Hennell, was responsible for much of the best work at Welwyn. This new house in Sherrards Park Road has 11 inch hollow brick walls with brown facings and wood-framed windows. It is three floors high and has a workroom in the sharply sloping roof. But for a small garden it has natural woodlands round it.

COLIN LUCAS (London)

27. *The Hopfield, St Mary's Platt, Kent* (1933)

Colin Lucas (1906–), now of Connell, Ward and Lucas, went down from Cambridge not long back and has been at work for only a short time. His first building of general interest was the concrete boat-house at Bourne End, Buckinghamshire, which, as a strong statement in that material, made one see that here was an architect in no way uncertain about his work. He and Wells Coates are the only architects in Unit One, and, in the book produced by that group, Lucas was responsible for a short account of his position and point of view. He is tired of the common tendency to see building from two unchanging angles—Use and Art—and only when the mind is free from this division and the two purposes are seen to be one and the same will there be “an ordered planning of clean-looking structures”.

The Hopfield (ex. 27) is a good example of such clean-looking design. It is a house which he has put up for himself in a quiet part of Kent. Its steel-concrete walls are coloured green outside and inside are faced with the wall-boards which were part of the formwork for the concrete and coloured chiefly yellow and green. There is an open sleeping-place on the first floor, and from its balcony steel-concrete steps take one down to a garden with wide walks and squares of grass. This small house is specially happy in the way in which its garden and the walls of its garden and the building itself are all parts of one organization.

The concrete house with its sharp edges and smooth hard wall-faces has the look of being cut out of cardboard, an effect which is special to this form of building, and in my opinion very pleasing. It makes it seem as if it had been put up without any slow feeling about for the right idea and was the outcome of clear-cut and freely working thoughts which have been given form without any waste of time.

STEWART LLOYD THOMSON (London)

28. *St Raphael, Hornchurch, Essex* (1933)

Stewart Thomson (1902-) was trained at Melbourne University, Australia, and in London. This example of his English work is in brick and steel-concrete with wood floors and roof. Outside, the house is coloured near-white with black metalwork. Inside, the colours are chiefly browns and light reds with bright touches of polished metal. The plan is very simple, as is right for a small house, and the garden walls and the walks put down in concrete squares make a complete unit of the design.

OLIVER HILL (London)

29. *Joldwynds, Holmbury St Mary, Surrey* (1933)

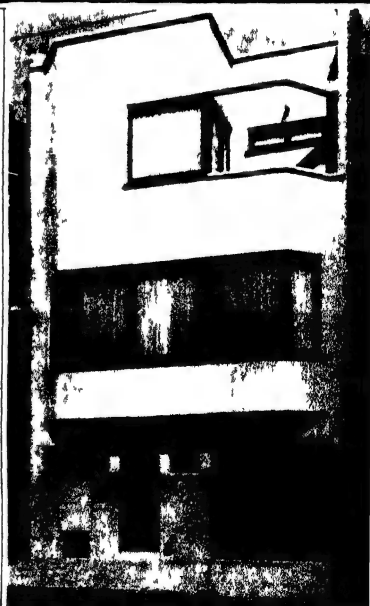
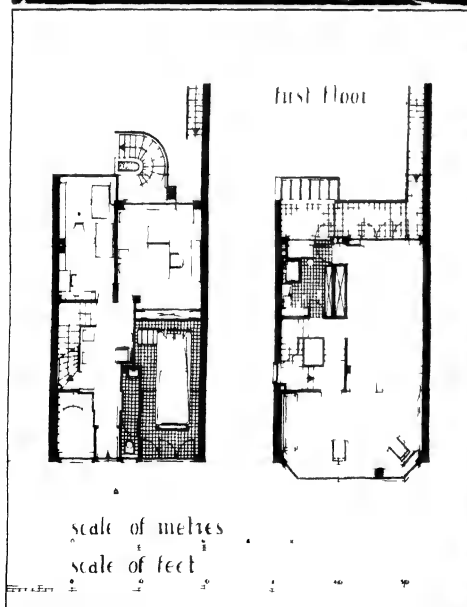
Oliver Hill (1887-) was at school at Uppingham and was trained as an architect in the office of W. Flockhart and at the

Architectural Association. He has done designs for a number of houses, not one of which is like another or true in feeling to any but the present time and that only in the widest sense of the word. His only rules are special to himself, so that to the young architect he is not the force he might be. But all his houses have quality, and quality is not frequent in the English house. He has a true eye for colour, for the relation of house to garden, for pleasing materials, and in addition he is conscious of the important place of painting and the other arts in building. He has been responsible for such widely different effects as the delicate, almost Greek hall at Gayfere House at Westminster, the Provençal hall in his house at Cannes, and the silver mosaic, white terrazzo and aluminium metalwork of the Midland Hotel, Morecambe Bay. His two latest houses, Joldwynds and Wentworth, Virginia Water, make great play with forms special to Corbusier, and are interesting not so much in their structure as in their massing in the countryside. Joldwynds (ex. 29) is in an uncommonly beautiful garden of old trees. Its walls are clean white, polished electrically, and among the dark greens of Surrey are a good example of the natural harmony of simple present-day building forms with the countryside.

SERGE CHERMAYEFF (London)

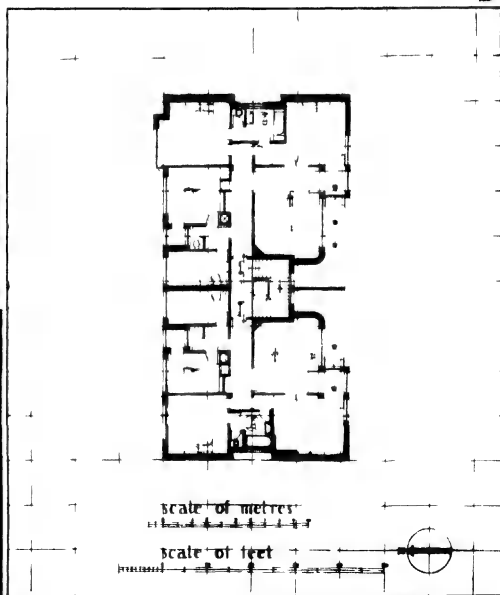
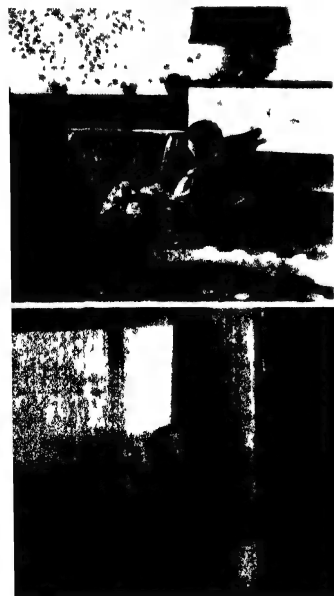
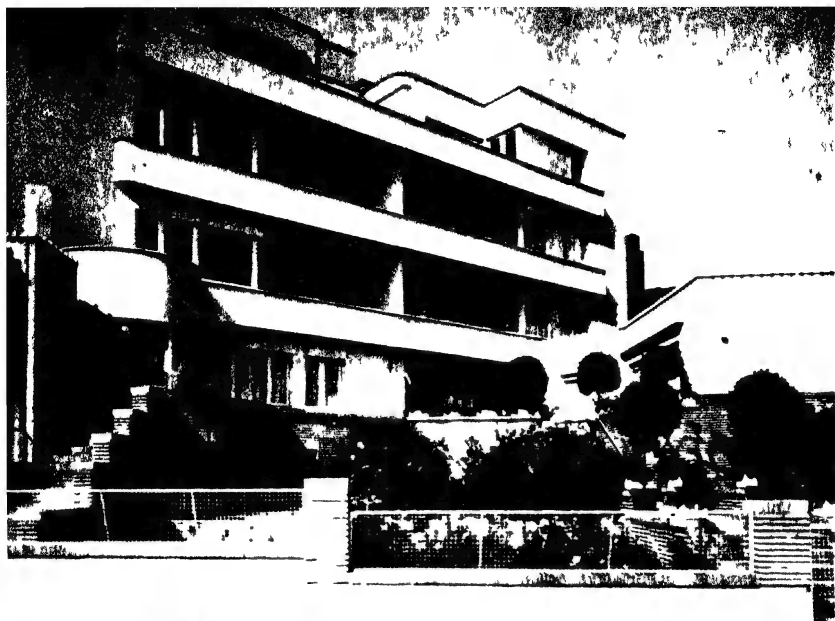
30. *House at Rugby* (1933–34)

Serge Chermayeff (1900–), who is of Russian birth, was schooled at Harrow, trained in France and Germany, chiefly in the designing of furniture, and between 1929 and 1931 was head of the “Modern Art Department” at Waring and Gillow’s. While in this position he was responsible for the organization of a public view of new work, chiefly French, and gave an impulse to the twentieth-century design which was at that time in a poor way here. With Messrs Wimperis, Simpson and Guthrie he did the design for the inside of the Cambridge Theatre, which in colour, lighting, and detail (all somewhat French in feeling) is still as good a theatre



Example 55

*Victor Bourgeois (Brussels).
10 rue Marianne, Brussels (1932).
Overlooking the garden and a view
of the street front.*



*Sta. Jasinski (Brussels).
House Anemone, Uccle, Brussels (1933).
The south front, a living room and a
bedroom.*

as you will come across in London. In 1931, after taking an office for himself, he was one of the designers working under the present writer on the design of the radio theatres at Broadcasting House. He and Erich Mendelsohn are now together and at work on the new sea-front buildings at Bexhill.

The House at Rugby (ex. 30) is the first example of his work on the small house for the family without servants. The structure is steel-concrete, 4 inch walls with an inside facing of building-board. Special attention is given in the planning to present-day needs in furniture—cupboards of all sorts—as part of the structure.

V. HARDING & TECTON (London)

31. *House in Crescent Wood Road, Dulwich* (1934)

Tecton is made up of seven architects: B. Lubetkin (1901–), trained in Paris; G. Samuel (1904–), M. Dugdale (1905–) and V. Harding (1905–), all trained at Oxford and the Architectural Association; A. Chitty (1907–), trained at Cambridge and the Architectural Association; and F. Skinner (1908–) and L. Drake (1910–) from the Architectural Association.

The first-rate steel-concrete flats at 25 Avenue de Versailles, Paris, were designed by Ginsberg and Lubetkin in 1932. A short time back Lubetkin, Drake and Tecton did the concrete Penguin Bath at the Regent's Park Zoo, where Tecton has, in addition, done the noted Gorilla House in which monkeys are housed with greater comfort and art than most men and women.

The house at Dulwich (ex. 31) by V. Harding and Tecton is nearer to French example and Corbusier specially than any other building in this country. It is in a road of private houses with good-sized gardens in one of the highest parts of London. The structure is steel-concrete faced inside with cork put into the formwork.

Another example of Tecton's work is the house at Gidea Park by F. Skinner and Tecton. The material is again concrete with the marks of the formwork still on it. A good point of this house is the sun-terrace at first-floor level.

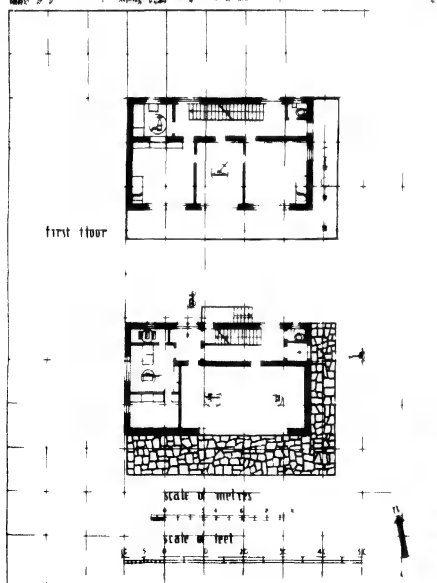
WELLS COATES (London)

32. *The Sunspan House, Olympia* (1934)

At the time of his birth in 1895 Wells Coates's father and mother were living in Tokyo, and it was here that he had his early education till he went to Canada and England to be trained as an engineer and later as an architect.

"It is said that a man whose eyes have been trained in the East will not frequently have any desire to keep them open in the West. For my part I will say that in Europe I have had more of an eye-opening experience in design from observation of the works of present-day painters and stone-workers than from all buildings but the Parthenon. The reason for this is clear: the work of men of art such as those with whom I am numbered in this group of friends, Unit One, is, in its most simple form, work in line and space. They have given me great help in seeing how different in value is a surprising trick from a great invention; what complex play of feeling makes up the values of a walled living-place; and what makes that special quality of being at rest which only buildings seem to have. A man of art will get whatever more is necessary by and from himself."¹

From these words it will be seen that Wells Coates comes to building by way of general ideas—theory of plan and theory of structure. As much as any other of the younger English architects he is a strong supporter of the International Idea or in Gropius's words "einheitlichen geistigen Weltbildes". The Sunspan House (ex. 32) is a working out of such an international idea—an idea in fact which has taken up the thoughts of a great number of architects in the last year or two—that of a completely free plan which would make it possible to have the size of the rooms changed whenever necessary by taking space from one and giving it to another. The Sunspan House may be of different sorts and sizes but in every one the living-room and chief bedroom are at the south angle. It is not a house for any one country, any one town or any one position, but for one sun giving light and heat



Example 57

*Otto Eisler (Brunn).
House for two men, Brunn (1931).
The south front and a balcony
detail.*

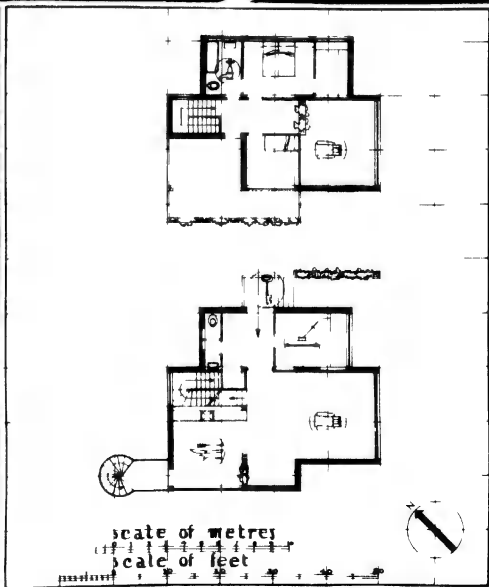


plate 58

*Josef Havlíček and Karel Honzík (Prague)
House in Prague (1931).
Views from the south-west angle with
the screw-form steps.*

from a fixed path all through the day. In other words, it has to do with completely general needs and not with special conditions. I have my doubts about an internationally normal small house on these lines. But though the plan would seem somewhat coldly reasoned it will be seen from the pictures of the living-room and chief bedroom that the inside may have a pleasing quality special to its owner or designer.

Another building by this architect, the Isokon Flats at Hampstead, is controlled by another general idea—that a number of persons at the present day have little property and so are quite happy in the smallest space necessary for their needs. This design has been judged to be somewhat “lean”, that is, to have little fat on it, to be all bone and muscle. And this smallest space necessary does not seem quite in harmony with that full existence which Wells Coates, with his special quality of feeling, sees in the future:

“One day those false rules of behaviour which now have no living force and the tendency to make a religion of the past in design will be no more. Till then there is no hope that building will have its true purpose again as an art. Most men have no chance or power to make for themselves, as they did in less complex, less expert times, the forms which give them a full existence. The first rule of the art of building is to go for that order which gives a fuller and freer way of living. The art of building is the servant of the purposes of men and not only of the beautiful.”¹

PROFESSOR LESLIE WILKINSON (Sydney)

33. *Greenway, Vaocluse, Sydney* (1922)

I have said in another part of the book that my first training as an architect was with Professor Leslie Wilkinson of Sydney University. Wilkinson (1882–), who is an Englishman, had done work with Professor A. E. Richardson at London University, and went to Australia in 1921 to take up his present important position

there. One of the first things he did was to make the design for his house at Vacluse (ex. 33), which was named after Francis Greenway, the Bristol architect who was responsible for the first good building in New South Wales.

When we keep in mind the fact that it was only in the second half of the eighteenth century that Captain Cook first saw Australia, it is clear that in comparison with older countries Australia has had only a very short time in which to come to any developments special to herself in the art of building. In the wide stretches and flats of that unmapped country there were then no buildings of any sort and designs, like sheep, had to be shipped from England. But for the work of Greenway most of the houses were as little in relation to the conditions of the country and the weather as English Christmas cake. However the discovery that covered spaces round the house were necessary to keep the rooms conditioned against the summer heat was quickly made, and bit by bit it was seen that the English house was not the best possible for Australia. Some designers went to the East for their examples, others to the Mediterranean. When Walter Burley Griffin came from America, his town-planning of Canberra having been placed first in the competition, a number of Lloyd Wright's ideas came with him. Wilkinson who was a lover of Italian and Mexican-Spanish forms and colour was of the opinion that the right ideas for the Australian house were probably to be got from those countries and, acting on this belief, made designs for houses with inside gardens, covered and columned walks and sun-balconies. Unhappily the public saw only the little bits of Spanish ironwork in these designs, the highly coloured coats-of-arms and such-like details, and copies of these quickly became common. In Australia as in America and all new countries it is ornament which takes the public eye.

The future of the Australian house is not to be seen in these mixed developments. It will be seen where attention to structure and plan has become the architect's first thought as in the U-plan of the sheep-farmer's house (designed for the free distribution of air in warm weather) and in its covered open spaces on the side facing

the sun. When we let them, forms will come naturally from the special conditions of their position, sometimes with surprising effect, as in the houses in Queensland which are on stem-like columns to give a free current of air under them and to keep the structure safe from the attacks of white ants. Here is Corbusier in the backwoods and all because of the undesired attentions of small insects. It might be a good thing for England, it seems to me, if we had two or three healthy armies of white ants to keep our architects moving.

Professor Wilkinson's house at Vacluse (ex. 33) is a first-rate bit of planning for the bright heat of Sydney. The way in is through a screening garden in which the trees which were there before building have been kept untouched wherever possible. From the hall there is a view of Sydney Harbour through the covered columned walk. Between the workroom and the house is a short run of steps and this room has a little garden to itself.

A good country-house by Professor Wilkinson is Shadowwood, Burradoo, where the U-plan has been very well worked out. The rooms are all on one floor with a long shaded terrace outside the room for meals and living-room on the east side. The way into the house is under an archway and through the garden square. Like all his houses it is in plastered brick. The white walls give full value to the play of sun and shade, as do those of the Mediterranean.

WARDELL, MOORE & DOWLING (Sydney)

34. *House at Wahroonga, Sydney* (1928)

John Moore and Laidley Dowling are two of the younger Australians in whose work the effect of Professor Wilkinson's teaching is clearly seen. John Moore, who is one of the most interesting painters in water-colour in Australia, has been for some time now a teacher in the School of Architecture at Sydney University, and his true sense of line and colour has made its mark on most of the

young architects who have come under his care. The writer is one of these and not the least in debt to him. A book on his work has been produced by "Art in Australia", a company interested in the printing of examples of Australian art.

The small one-floor house at Wahroonga (ex. 34) is in a natural garden of *eucalyptus* trees. The structure is in brick thinly plastered and colour-washed, with box-frame windows and a roof of the sort to be seen in the south of France. Nothing is wasted in its tightly reasoned plan, and the complete house is a good example of organization in scale with the needs and comforts of a small family.

HANSON, TOMKIN & FINKELSTEIN (Johannesburg)

35. *House for Arthur Harris, Lower Houghton, Johannesburg* (1933)

Most of us have seen pictures of the Dutch farm buildings of the Cape with their lime-washed and plastered walls, delicately curved roof-ends and roofs of grass. These buildings were developments of materials nearest to hand. They were plastered because the only bricks the Dutch were able to make were soft and moulded to a much greater size than normally. A number of different forms of these buildings were put up by the Dutch between 1670 and 1800. With the coming of the English, Georgian and Victorian buildings quickly came into existence to give way, as ever, to self-conscious reactions in which an attempt was made to put the clock back to 1800 and earlier. Herbert Baker did, possibly, the best work on these lines. In no example of his later work is there anything quite as good as his South African designs.

In South Africa there is so far only a small number of buildings, certainly a very small number of houses, which may be said to be true developments of the twentieth century. Some of the best work is by young men—Rex Martienssen and Hanson, Tomkin

and Finkelstein, all of Johannesburg. Of work by the last-named architects the best is the house for Arthur Harris (ex. 35). Though it seems to be in concrete it is, in fact, chiefly in brick with concrete columns where necessary. It is well planned and massed and, though a little hard, is certainly a step in the right direction. Its living-room and bedrooms are faced north to the sun and make the best of a beautiful outlook. The weather (in Johannesburg) is bright and healthy, with warm winters and violent rains in the summer and a little snow about every two or three years.

FRANK LLOYD WRIGHT (Spring Green, Wisconsin)

36. *Robie House, Chicago, Illinois* (1908-9)

37. *Millard House, Pasadena, California* (1921)

The birthplace of Wright (1869-) was Richland Center, Wisconsin, a place, it is unnecessary to say, far away from the theories and reactions of schools of building. There was no school for architects at the Middle West University of Wisconsin so he became an engineer. For this reason it is not surprising that the art of building was at first a great discovery to him and one in which his powers underwent a sudden and uncontrolled expansion. His designs were like new "Leaves of Grass" in their sudden growth to the sun. In the spring of 1888 he went into the office of Adler and Sullivan, architects, of Chicago. At the Massachusetts Institute of Technology Sullivan had become very tired of the order of the day and "conscious of the need for a new way of thought, a strong idea which would give a living impulse to this dead waste of Orders and fixed forms".¹ He went to Chicago after the great fire and was conscious there of "an electric feeling of starting again, a sense of great things to be done"; to Paris where he got through the tests of the École des Beaux-Arts in six weeks; and to Rome where in Michelangelo he saw "the first man with a great voice". He went back to Chicago in the 'eighties and when

Wright came to him he was working hard on business buildings and had no time for houses. Between the years 1888 and 1894, when he was with Sullivan, Wright put up fifteen houses. Before 1900 he was responsible for another twenty, and had given a completely new feeling to the planning of middle-sized houses in the Middle West. Here are his guiding rules which he gave out in 1894:

I. The qualities of being simple and at rest are the measure of the true value of any work of art.

(a) A good building has only that number of rooms which is necessary to the conditions which are its reason for existence and under which the owner will be living.

(b) Openings are best when they are necessary parts of the structure and make its natural ornament.

(c) Furniture is best when it is part of the design of the structure.

(d) Pictures are more frequently a trouble than an ornament to a wall.

II. *It is good for there to be different sorts of houses as there are different sorts of men, and as great a number of different points in them as there are in different persons.*

III. A building is best when it has the look of being a growth natural to its position.

IV. Colours are in need of the same ordering process as forms if they are to be part of one's everyday experience.

V. Materials are best when their natural qualities are fully marked.

VI. The machine is the normal instrument of our time; give it the work it is well able to do.

His houses are good examples of his rules in operation. His free plan gives us the representative all-one-room floor which has now come to its full development in the living-rooms of Miës van der Rohe (exx. 85 and 90). His feeling for the flat country of the Middle West was the undoubted cause of those long flat forms and

quiet skylines which have become the representative mark of the present-day house. There is space in his designs, a reasoned use of materials and a clean use of ornament.

It is a surprising fact that the Robie House (ex. 36) was put up as far back as 1908. Three years after this Wright put up his first house for himself at Taliesin. This house is in stone, mined nearby, and with its walled gardens and squares is in complete harmony with the country round it. In 1906 he went to Japan, in 1910 to Germany, and between 1916 and 1920 he was working on the Imperial Hotel, Tokyo. The Japanese qualities of the Imperial Hotel may be seen in a number of his other works, specially in the simple lines and ornament of the Millard House, Pasadena (ex. 37). At the same time this flat-roofed house is an outcome of Wright's high opinion of machine-made materials. It was the first house he put up in concrete units. These units, 2 to 3 inches thick, are put on edge, locked together and made strong by steel rods, so making a smooth hollow wall-structure. The floors and the roof are put together in the same way. Wright has here given effect to his belief in the machine as the architect's instrument. In 1914 he got out thirty-five designs for ready-made wood houses and these were put up in seventeen different towns. In addition to the *Imperial Hotel*, Wright was responsible for a number of other houses in Japan—the *Aizacu Hayashi House*, Komazawa, Tokyo (1917); the *Yamamura House*, Ashiya (1921); the *Fukuhara-san House*, Hakone (1922). One of Lloyd Wright's helpers, Antonin Raymond, was sent to Tokyo to take control of the building of the *Imperial Hotel*. He is still there and has put up some first-rate houses. (See exx. 112, 116, and 118.)

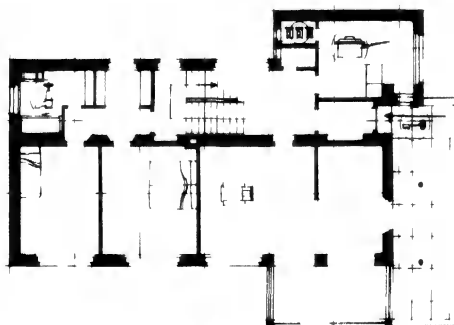
The last house put up by Wright, the *Jones House*, Tulsa, Oklahoma (1931), is a strong, straightforward building in concrete and glass. His last design for a house on the Mesa, Denver, Colorado (1932), has rhythm, a reasoned order and something of the qualities of the great houses of the past. It is a design for concrete, copper and glass, in which money is not taken into account, and is quite at the other end of the scale from the cheap Dymaxion

House of Buckminster Fuller (ex. 40), against which Wright has made this protest: "A chair is a machine for being seated on; a house is a machine for living in; a man's body is a machine to be worked by mind; a tree is a machine for giving fruit; a plant is a machine for giving flowers and seeds; and, as I have said somewhere before, a heart is a pump. Do you get any kick out of that idea? Common as it is, it may be as well to give thought to it, for the *least* any of these things may be is that."¹ Even Lloyd Wright has taken the hook, line and little coloured cork hanging from the end of Corbusier's expert rod.

R. M. SCHINDLER (Los Angeles)

38. *Summer House at Avalon, Catalina Island* (1928)

Schindler, like Neutra, is an Austrian by birth working in California. His Summer House at Avalon (ex. 38) is a week-end and rest house for a small family, with rooms for one or two friends and a caretaker. There is no garden. Every floor has a terrace to itself and there is a roof-garden on top. The planning has been completely conditioned by the surprisingly beautiful view over land and sea, and so has been kept as open and free as possible. The rooms and the terraces outside them are united by folding glass doors. The form of the house is in harmony with its purpose as a play-house. The feeling it gives of having as little weight as a feather is helped by there being no strong supporting uprights to take the eye. The normal idea of a house as a moulded growth of chance material is not attempted here. This house is more a system of space-units taken out of the mountain air itself and weighted down to earth by flower-boxes. The structure is most interesting, being wood-framed with plaster, the cheapest form of building in that part of America. Floors, terraces and roofs are of 2 inch steel-concrete supported by uncovered wood beams every 4 feet. The ceilings are of iron roofing material acting as a skin for the concrete while taking form. This system makes unnecessary the



scale of metres

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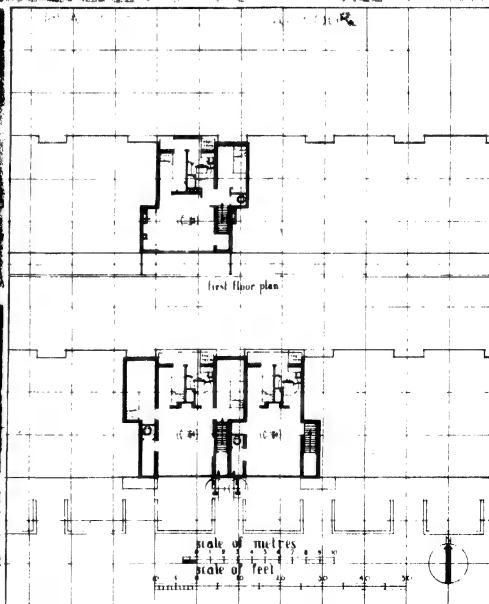
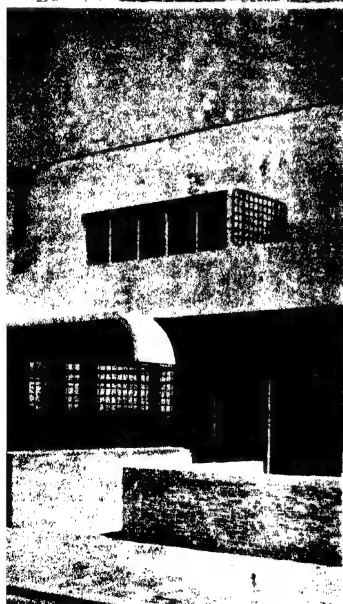
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0 10 20 30

Example 59

*Ernst Muhlstein and Victor Futh (Prague).
House in Böhisch Komnitz (1932).
The east front.*



complex business of placing rolls of roofing material between ceiling and terrace or floor structure. The plaster is done in a sand colour, the woodwork being painted a deeper shade of the same colour.

PALMER SABIN (Pasadena)

39. *Roscoe Thomas House, Pasadena, California* (1929)

Most of us have seen more than enough of the Hollywood sort of Spanish and Mexican house—houses having more in common with fiction than building and generally designed for—and probably by—the rulers of the moving-picture industry. Side by side with these, however, there are buildings which, though not of the new school, are in harmony with the country and the time. They have a natural Californian feeling about them and this, united with the sharp touch of the present-day architect, gives them a truly pleasing effect of making the best of the two possible forms of new and old.

Of the American architects working on these lines the most interesting is Palmer Sabin. His Donald Dickey farm in Ojai is a good example of Californian design—rough stone plastered, with a Spanish roof, and is massed in a well-judged position among the mountains. The Roscoe Thomas House (ex. 39), placed on a stretch of grass among old gardens, has the same Californian quality. It is a frame building with a facing of whitewashed brick. Floors are oak, roof cedar, and hall and living-room have a wood ceiling. It is a natural bit of work and the opposite in every way of machine-made building.

BUCKMINSTER FULLER (Bridgeport, Connecticut)

40. *Dymaxion Houses* (1932)

Though most of the houses in this book may seem a little strange to those who are seeing them for the first time only one of them is

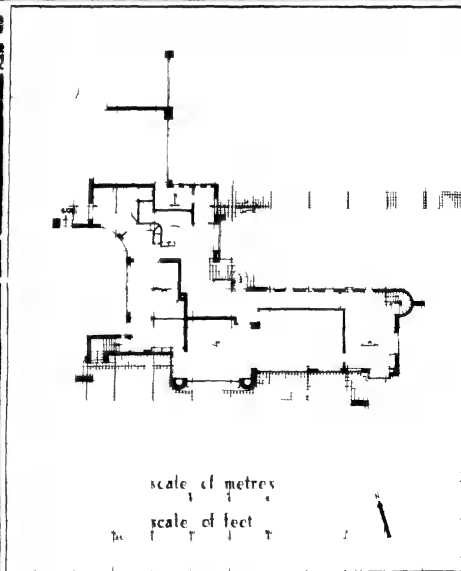
not in the straight line of development and that is the Dymaxion house of Buckminster Fuller. Fuller, being an engineer—the Dymaxion automobile is his invention—has no old and long-formed opinions about what a house is like. He has gone about getting a straight answer to a simple question—How to make the best use of the developments of science and industry in building. While the need for such an answer is clear to everyone, architects all over the earth are putting up great housing developments which are twenty years and more away from the discoveries of science. Why this waste of time? For a change it is not the architect who is responsible this time. Though the machines are making first-rate materials of the sort the architect is in need of, the makers have no organization between them by which the different things produced may be put into some ordered relation with one another. Materials are sent out in all directions to be put together again only with great pain and trouble by the architect. He, poor man, is in the cart and has to go where he is taken.

Industry in America is still unable to put up good cheap houses for the man whose income is not more than 1800 dollars a year. He has to go into a building for a number of families where it is possible to undertake things in common and so more cheaply. Because of transport questions and the high price of putting down roads and other systems, this building has to be in the middle of the town where there is naturally less air and not so much light. There is no doubt that the only way to overcome these unnatural and unhealthy conditions is by some responsible authority or government taking over these properties and putting a stop to undertakings which keep millions in dark and dirty streets for private profit. Till this is done there is little hope of Corbusier's idea of a *ville contemporaine* in open woodlands being made a living fact. As things are at present it does not seem probable that the poor will be housed any better for a very long time. They will have to put up with what little amount of light and air they are able to get on an income of less than 1800 dollars.

Now as to the small house-owner. Unable to have his house de-



J.J.P. Oud (Rotterdam).
 Houses in the Weissenhofsiedlung, Stuttgart (1927).
 The backs and a detail of the front door and balcony
 of No. 7



*H. Th. Wijdeveld (Amsterdam)
House de Bouw, Hilversum (1928).
The south-east front, view from the*

signed by an architect and uncertain in his ideas of what a house might be, the small owner is bread and butter to that business man who is now the self-made expert of building and ornament. In this connection the observations of Mr F. L. Main, printed in *The Times* of June 22, 1934, are very much to the point. "Mr F. L. Main said that after 1929 thousands of house-owners had their houses taken away from them because they were unable to make the necessary debt-payments and thousands more saw the value put on their properties by the banks go down when the time came to get credit again. Experience made clear to the public mind the high prices and unnecessary profits which went with that second-rate sort of house put up by business-men interested only in making money out of cheap building and the quick expansion of land values. In these conditions the public took note of the better organization and the way in which prices were kept down in the making of mass-made automobiles, radios and electric ice-boxes and when they saw that the automobile was the most highly priced and best mass-made thing on the market it seemed natural that the housing of the future would be made and marketed in the same way as the automobile."¹

It is quite clear that it is now possible to make a cheap house to order, complete or in parts, in the works and put it together again almost anywhere as if it were an automobile. Buckminster Fuller takes this fact as his starting-point and gives us an idea of what such a mass-made house would be—a house to be had for 25 cents a pound, with five rooms complete with furniture and fixed details, 6000 pounds in weight and produced at 1500 dollars.

Fuller says, "We would not have been able to come to the airplane by a straight development of the railway engine.... We have been working with the idea that in housing unnecessary weight and twisted design are signs of self-development and strong qualities of mind in the owner.... The new housing will put all the old forms out of use because of the low price of operation and upkeep with which the organization of money and goods is ever making adjustments and will not only give new houses to that further

300,000,000 which it will be necessary to make room for in the coming eighty years but will keep on giving new houses to the 1750,000,000 who are here now or will be made up for by the natural birth rate. The number of houses needed, then, by 2000 A.D. will be about 20,000,000,000 or about 280,000,000 a year, which is 140 times the number of automobiles produced by Ford's works. Who says we are over-produced?"¹

Fuller has made his Dymaxion house with an engine and a body quite as if it were an automobile. It has thin floors and walls hanging by steel wires from the top of a fixed middle column of "duralumin" in which there are the steps to the first floor and all the apparatus for heating, lighting and air-conditioning. These houses have no need for pipe-lines or drains. Very little water is used. The ten-minute steam bath takes no more than a quart of water. The W.C.'s are the sort used in airplanes. All the units of the Dymaxion house—baths, ice-boxes, cookers, beds—are mass-made and purposed in every detail. The producing price of the first and chief mould is not important. The new Ford automobile, for example, took 43 million dollars for the first unit though its copies are produced at only 500 dollars or 22 cents a pound.

A development of this house is the twelve-floor Dymaxion building with a frame moving with any change in direction of the wind so as to give as little resistance as possible. The good qualities of this design are in the cutting out of 87/100 of the effect of the wind on the structure.

The idea of the machine-made house has been taken up by a number of other American architects—S. C. Horsley, Henry Wright, and Monroe and Irving Bowman. Monroe Bowman (1901–) and Irving Bowman (1905–) have a design for a mass-made house, with middle column and steps, for a family with an income of 2000 to 3000 dollars. The conditions of building are much the same as those of the Dymaxion house—low producing price, simple building, transporting and putting together in the field, small weight, strong qualities and good materials. The

heating-room and automobile-house are on the street level, the living-room, room for meals and bedrooms on the first floor. The bedrooms, being rooms for sleeping only, are small. There is apparatus for heating, cooking and airing. For the three sorts of Bowman houses, produced at 4000, 5000 and 6000 dollars, the operation prices are about 39·90, 49·43 and 59·21 dollars a month. Other sorts of mass-made houses, framed and unframed, have been designed by American architects: Richard J. Neutra; Kocher and Frey; Claus and Daub; John C. B. Moore; Robert Smith, Junior, for the Insulated Steel Construction Corp.; Frazier and Raftery for the Masonite Corp.; and Howard T. Fisher for General Houses, Inc., Chicago, Illinois. General Houses say in their advertisements, "You may have this five-room house by the week-end".

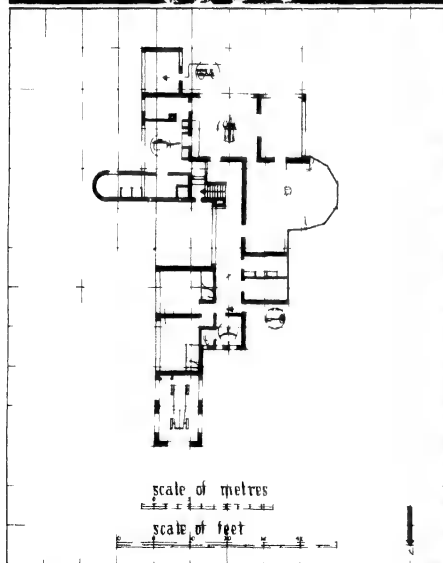
HOWE & LESCAZE (Philadelphia)

41. *Field House, New Hartford, Connecticut (1932)*

George Howe (1886–) is a New Englander, but up to 1904 when he went to Harvard University was chiefly in Europe where he had the greater part of his education. At Harvard his chief interest was in painting and the history of art, but his thoughts were quietly turned in the direction of becoming an architect by his father, who was of the opinion that this was a much more responsible and regular form of business for a young and forward-looking American. After journeying through Italy in 1906 he went to the École des Beaux-Arts in Paris and did not go back to America till 1913. From then till 1928 he was working in Philadelphia with Walter Mellor and A. I. Meigs who were chiefly interested in the building of private houses and bank branches. The houses produced by him at this time were freely planned and simple in design, but still looking back to the past for support and suggestion. Later, when faced with the planning of business buildings, he saw how foolish was the covering up of steel-framed structures with unnecessary stone- and brickwork, and came to

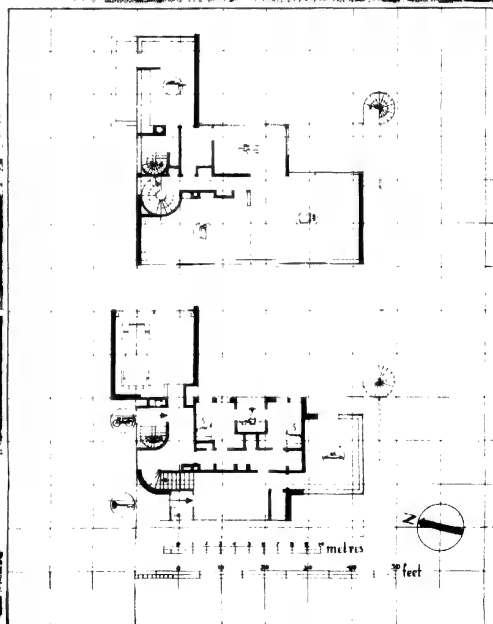
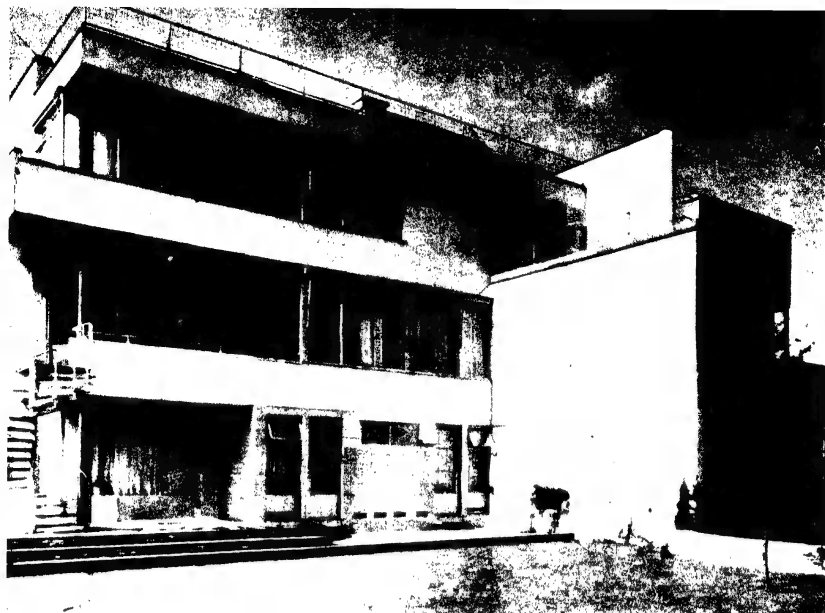
give his attention more consciously to the new developments in Europe. Shortly after this he came into touch with William Lescaze.

Lescaze (1896-) is a Swiss architect who went to America in 1920 after working on the building up of those parts of France damaged by the fighting in 1914-18. He had been under Karl Moser for four years at the Zürich Technische Hochschule and for a short time with Henri Sauvage in Paris, and so was well on the right lines before he went to America. However, in his first year or two in that country, he had little important work to do and that chiefly inside design. Before joining up with Howe in 1929 his only important work was a small country-house at Mount Kisco which was not specially new in planning or design. But in 1929 when the two of them were working together their buildings took on a new form. The Oak Lane Country Day School near Philadelphia (1929) is quite different from the earlier work of Howe or Lescaze, and though they may have put up much better buildings in the last five years this is as important as any of them because of its healthy effect on other American architects. Through this they have become interested in the building of two or three other schools, the best of which is without doubt the Hessian Hills School, 1931. This long low building, with its unbroken band of windows, is pleasingly simple and unselfconscious. If they had had more money to put into it, it might have been even better and possibly not quite so weighted down. However, there is only a small number of schools which are as good of their sort as this one. They were responsible in addition for the Headmaster's House, Dartington Hall, Totnes, England (1932-3). This is placed on a country road which goes north and south, and is planned with its chief rooms open to the view on the south and west. The flat roof is used as a terrace, part open to the sun, part covered in. There is a strong suggestion of Corbusier about it. Shortly after this they put up the new School House at Dartington. This long thin white building is freely supported on 4 inch round steel columns. It has only one window stretching from end to end



Example 63

*Ir. J. B. van Loghem (Rotterdam).
Rest House at Driebergen (1930).
Views from the north-west and
north.*



of the wall, a distance of 100 feet. All round it are trees through which it seems to go like a flat river steamer.

Their most important work is the building for the Philadelphia Saving Fund Society (1930-32), certainly one of the best of the American tall buildings. The house I am interested in here (ex. 41) is the Field House, New Hartford, Connecticut (1932). This is a steel-frame building clothed smoothly in plaster and placed high on a tree-covered slope with views to the south. Three-quarters of the lowest floor are taken up with a great living-room, the south end of which is open to the light and the country sloping away from it into the distance. This room is designed equally for meals and for work. There is space on the white pine book-shelves for 2000 books and the writing tables have pull-out shelves for writing-machines. The walls are yellow, the fireplace white soapstone. The house is heated by an oil-burner in winter and conditioned by the same apparatus in summer. The roof of this room is used as a terrace outside the bedrooms on the first floor, with screw-form steps going down from it into the garden. Though the building work put into it does not seem of the best quality, the complete house is simply planned in relation to its purpose and position, and is a happy example of the small country-house designed on healthy lines.

RICHARD J. NEUTRA (Los Angeles)

42. *Mosk House, Hollywood Mountains, Los Angeles, California* (1932)

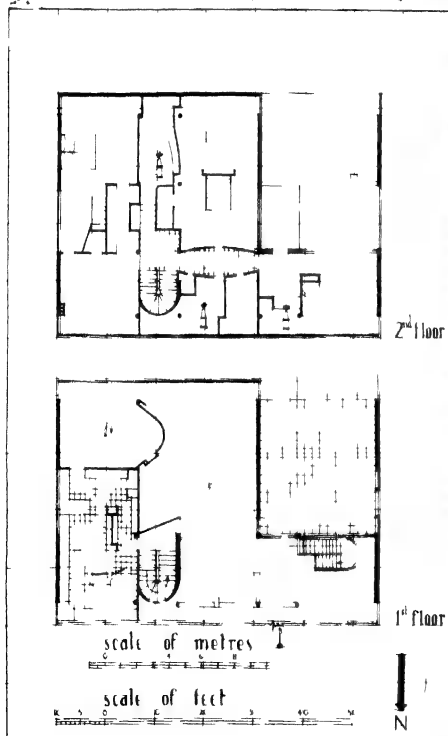
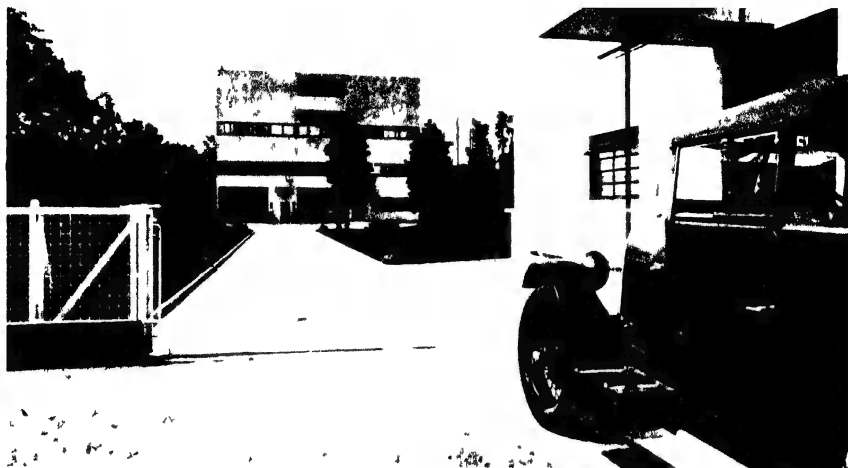
43. *V.D.L. Research House, Silverlake, Los Angeles* (1933)

Richard Neutra (1892-)—Wright and Corbusier in one man—is a Viennese by birth. Between 1909 and 1912 he went to the Vienna Technische Hochschule, and then for two years was with Adolf Loos. From 1914 to 1918 he was in the army, and did his first building work under military conditions in Albania and Herzegovina. It was not till 1921 that his chance came to get first-hand

experience of building on a great scale. In this year he took part in the planning of the *Berliner Tageblatt* building with Mendelsohn and Henning, and was responsible for the organization of work on the structure. The year after he put up four houses in a group of twelve at Berlin-Zehlendorf. These were very simple and solid, but quite as much in harmony with Berlin as his Lovell House was to be with the Los Angeles mountains.

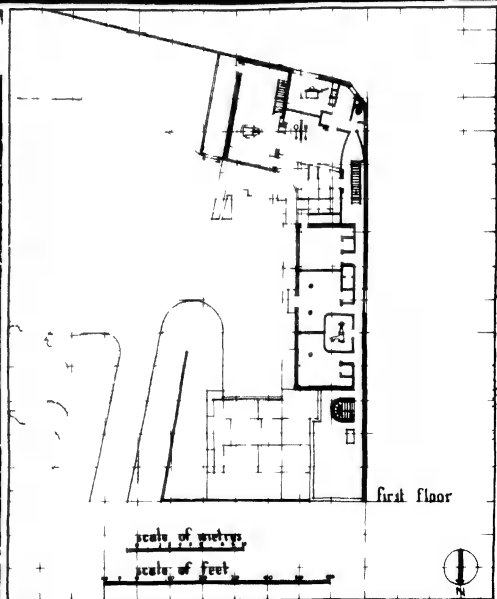
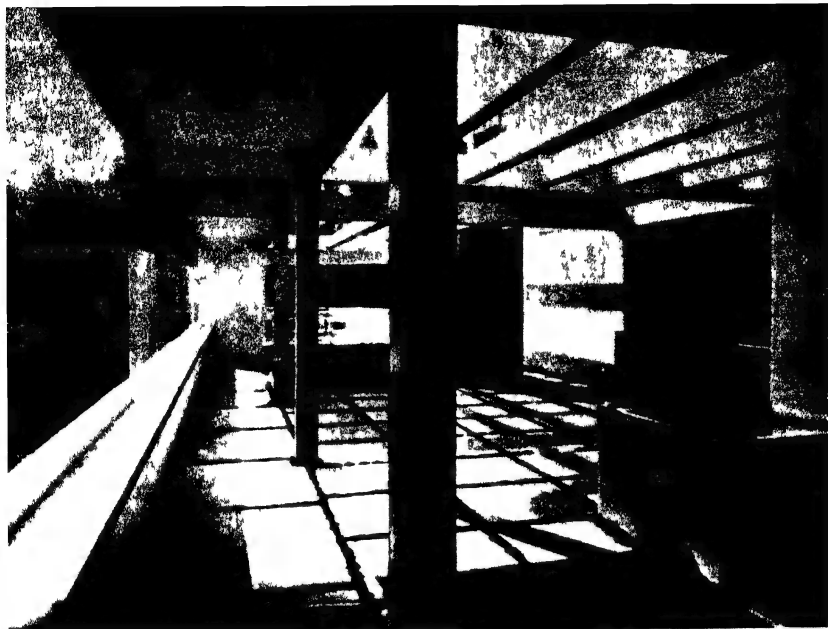
In 1923 Neutra went to America and, inside a year, was writing an account of American steel-frame building based on his experiences with Holabird and Roche, with whom he had been working and who were then putting up the Palmer House in Chicago. This book, *Wie Baut Amerika*, has in it a number of designs for a possible town, "Rush City", an idea on which he had been working for three or four years and one quite as interesting as Corbusier's in its answer to the probable needs of the future, and in fact to the certain needs of to-day. It is a sign of an architect's true feeling for his work that he gives himself up to building for society generally even when it is uncertain if anything at all will come of his trouble.

In 1925 he took an office in Los Angeles and, working with another Austrian, R. M. Schindler, got out a design for the Palace of the League of Nations which, in company with Corbusier's design and that of Hannes Meyer, went its journey round Europe under the authority of the Deutscher Werkbund. The year after this he put up the Garden Flats at Los Angeles, one of the first examples in America of a natural design based on present-day systems of building. Its banding of windows, its balconies and roof-terraces were all new to America and had a generally healthy effect. The Lovell House (1929) in the mountains outside Los Angeles is well planned and clear in effect, and, placed as it is on the sharp mountain slope looking in the direction of the sea in the distance, is a great attempt at building for position. The steel frame is open to the view, and its regular parallel supports give the house the look of a delicate Japanese structure, for steel and wood are much nearer to one another than they are to brick and stone.



Example 65

*Le Corbusier and Pierre Jeanneret (Paris).
Les Terrasses, Garches, near Paris (1926-27).
The north front, the south front and the open
terrace on the first floor.*



The house for Mr and Mrs Mosk (ex. 42) is, like the Lovell House, well placed in the mountains outside Los Angeles, with beautiful views in all directions. It is a wood-framed and boarded house overhanging a somewhat sharp slope, so that its band of windows and open balcony have every reason for existence. When one takes into account the views there are in California it is certainly surprising that till now the only balconies they had there were little ironwork ornaments of the Spanish sort. This house, which is one of a group, is an uncommonly good attempt at keeping down price. Its building-price, without furniture, was £795 for 15,000 ft.³

The V.D.L. Research House (ex. 43) was supported and made possible by a man interested in the "International Association for Industrial Relations" and was designed as a test of a number of new building materials. Its position by the side of a wide stretch of water gave a reason for the free use of windows. The floor-plan is designed to make it possible for there to be separate owners for the two floors. The structure of the building is a wood frame with division walls in such materials as gypsum board, wall board, and so on, coated with a number of materials such as layer glass and metal, coloured plateglass, metal-leaf, rubber, linens made to keep out the wet and "bakelite"—produced from *phenol formaldehyde*. In common with Corbusier and Miës van der Rohe, Neutra sees in the qualities of wood, steel and steel-concrete the special values of present-day building, in that they are representative of our desire to be physically free and our love of the open air. The great buildings of the past were dependent for their chief effect on weight and mass, almost on their power to make their owners respected or feared. They were a part of a very different system of society. In these days for a building to be based on such a system would be foolish. But we still go on putting up these great buildings which have the look of "outsize" paper-weights. The buildings of Neutra's "Rush City" are of a different sort.

JOHN C. B. MOORE & GILBERT ROHDE (New York)

44. *House at Chicago Century of Progress* (1933)

This house from the Chicago Exposition of 1933 is a good example of a building planned for mass-made materials—here chiefly for wall-board. All the framing is wood, covered outside with boards of wood substance in 4 feet by 8 feet units and inside with plaster-board. Such a simple design is completely dependent on its good balance. There is not an ornament of any sort.

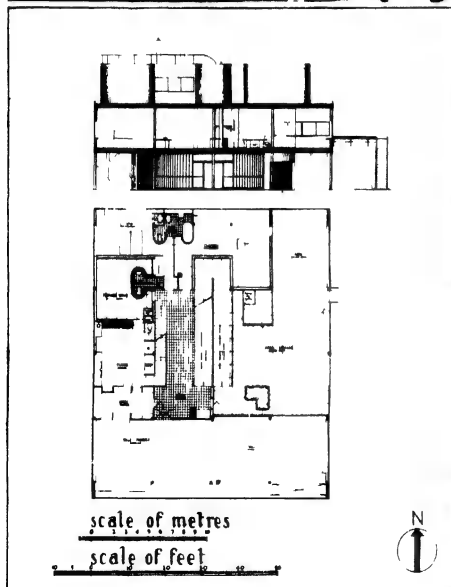
The plan has very little waste space. There is a straight connection between the automobile-house and the hall. In so small a house the living-room is naturally used as a library and place for meals. The terrace for outdoor living, with its screen of plateglass, is in right relation to the direction of the sun. There are only two bedrooms, opening on to a first-floor terrace, but the house is designed for the addition of a third bedroom if necessary. Being designed for very warm and very cold weather this house has an air-conditioning plant as a normal part of its apparatus. There are no heaters in the rooms, the air itself being heated by the conditioning plant. The architect for the house was John C. B. Moore, and the furniture and inside details were by Gilbert Rohde.

ADOLF LOOS (Vienna)

45. *House on the Geneva waterfront* (1904)

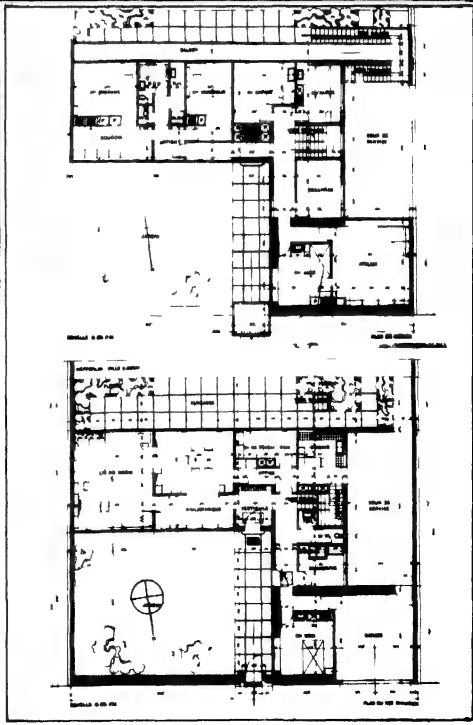
46. *House Moller, Vienna* (1928)

Adolf Loos (Brunn, Czechoslovakia, 1870–1933) was the son of a stoneworker and had experience as a boy in most of the building trades—stonework, sign-writing, painting, metalwork and concreting. After being at the trade-school at Reichenberg and for three years at the Technische Hochschule in Dresden under Professor Weissbach, he went to the United States where he had work for a time as a designer of chairs. Later, after the loss of his



Example 67

**Le Corbusier and Pierre Jeanneret (Paris).
Savoye House, Poissy-sur-Seine (1928-30).
The roof garden, way out to the roof and a
view from the field.**



position in an architect's office, he became a brickworker and an expert in that trade. Writing of this experience he said that his training in this field was of far more value than anything offered by a Technische Hochschule. When times were hard he became a plate-washer. He went back to Europe in 1896 and took an office in Vienna, starting even as early as this on his long war against ornament and the "formalistes à la Olbrich". "Some men and women", said Loos, "are sad that we of to-day, unlike the black men and men of times gone by, are unable to make new ornament. Let them be comforted—that we are unable to make new ornament is a sign of the great qualities of our times—we have gone far past it"¹ (*Crime and Ornament*). A number of his writings were printed in the *Neue Freie Presse* and later in book-form under the name of *Ins Leere Gesprochen* (1897–1900). In 1903 he was an important supporter of Altenberg's paper—*Die Kunst*—and became controller of another paper, *Das Andere, eine Zeitschrift zur Einführung abendländischer Kultur in Österreich*, but only two numbers were printed.

The small amount of important work coming from him at this time was the outcome of his attack on ornament and his protest against doing things by halves. His first work of any size was the Café Museum in Vienna in 1889. Between 1900 and 1910 he was responsible for designing furniture for a number of houses, and 1904 saw the House on the Geneva waterfront started (ex. 45). Loos's first house in Vienna was put up in 1910, and in the same year he undertook a building on the Michaelerplatz in Vienna. The design for this, however, had so little ornament that it was turned down by the building authorities; all came out right in the end, but only after so much waste of time and trouble that no one gave him any important order for some years.

In 1906, a building-school, unhelpt by the government, was started by him and, though attacked on all sides, became in a short time a greater attraction for young architects than the two government-controlled schools in the same town. Education was given in furniture-design, structure, history of art and materials.

A special point was made in his teaching of the need for giving great attention to the distribution of space-forms, the outside of a building being the natural outcome of this and not, as wrongly, designed first. Loos's teaching was based on the true line of past development and not on sudden and short reactions against it. After the war he gave private teaching to young architects and public talks on things to which thought was not generally given—the position of the body in walking, at meals, seated and at rest; on cooking and so on—and made an attempt to get everything into right relation as a starting-point for the fullest form of education. He took no payment from those who came to him, and had no desire for any other reward than that of hearing they had got more from him than from the regular training in building at the High School. Between 1920 and 1922 he was chief architect on the Vienna housing committee, and though his designs for groups of flats and housing developments were not used they became an important example to other architects of work on those lines. A book of his which came out at this time was *Die Moderne Siedlung*. In 1923 he went to Paris, where he put up a house for Tristan Tzara in the Avenue Junot and did designs for the furniture of the business house Kníže. He was the only man to become "Membre Honoraire du Salon d'Automne" who was not a Frenchman. His work was put on public view for the first time in Paris in 1923, and among his designs was one for the Grand Hôtel Babylon which had a great effect on the general public. Loos went back to Vienna in 1928 and in 1930 was rewarded by the Czechoslovak Republic for his great work. He was so international a force in building design, so widely respected as a teacher and an architect, that the fact that he was only 63 at the time of his death seems as surprising as it is sad. It is to be regretted that so great a man had to give up so much of his powers to getting a hearing for himself against the attacks of small and unimportant men. Loos's complete works, those in material form and those whose only existence is on paper, are an education in themselves. In fact most of his best ideas are still at the paper stage, an example

being his eight-floor Grand Hôtel Babylon (1923) which, with its stepped Babylonian wings and every room opening on to a terrace, is greatly planned in every way. But ten years earlier than this there was his design for a hotel in Semmering (1913), planned in the form of the letter U, and lifted on a solid base of stone from tree-covered slopes like the Potala of Tibet. The stepped form of the Grand Hôtel Babylon was used with equal effect in the simpler design for a hotel in the Champs-Élysées (1924). These three designs are an example of present-day statements based more on the sense than the letter of the past. Another happy design of his was for a house for Josephine Baker (1928)—a white building banded with black which, in its consciously African effect, was completely right for that noted dancer.

The last part of the work on the house on the Geneva waterfront (ex. 45) was not done by Loos but by Hugo Ehrlich. The metal-work over the windows was a later addition by Ehrlich. The inside is lined with polished limestone, a cold material which is here surprisingly used to give an effect of comfort and warm colouring. Polished limestone is frequently cheaper and stronger than wood-work in inside design.

Jacques Groag was responsible with Loos for the House Moller (ex. 46), an example of his very simple and delicate later work. The chief floor of this building is at two levels with connection by a short series of steps. Hall and music-room are at the lower level, the library, room for meals and cooking-rooms at the higher. The room for meals is open to the terrace. The first-floor inside walls are of wood, and chiefly in the form of cupboards.

LOIS WELZENBACHER (Innsbruck)

47. *House Rosenbauer, Linz, Donau* (1929)

49. *House Treichl, Innsbruck, Tirol* (1930)

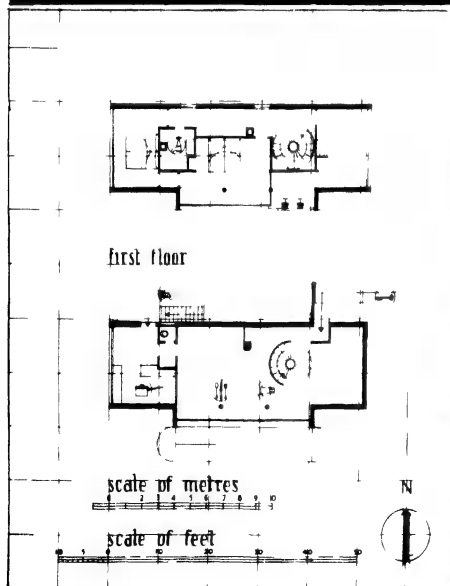
Lois Welzenbacher (Munich, 1889–) had his early training under Theodor Fischer. After coming out of the Tirolese army at the end of the war he made a start for himself in private work at

Innsbruck, becoming in 1922 teacher of building at the High School there. He has been responsible for a great number of houses, flats, restaurants and hotels, chiefly in Vienna, Linz, Salzburg, Tirol and Vorarlberg.

Welzenbacher is at his best in house-design. The first outline suggestions for his designs let one see that he is less interested in ornament and detail than in the way the rooms will be used for living. He gives his attention to the placing of windows in relation to light and outlook, and everywhere puts comfort before theory and quality before effect.

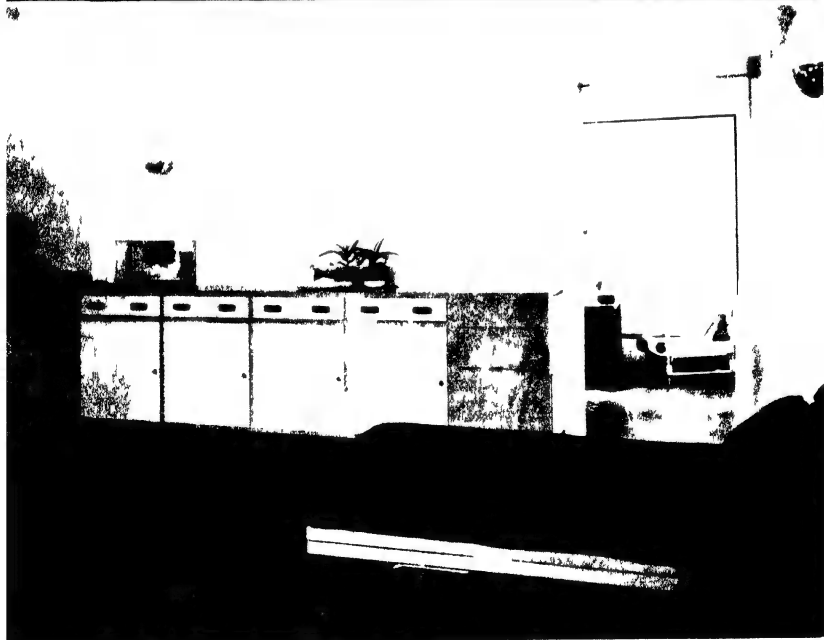
The House Rosenbauer (ex. 47) is certainly a house after one's heart's desire. It was designed for a mountain lover, and is an attempt at the right placing of a house in relation to the country round it. It is in a field on the edge of a private wood, with wide views over the Danube. A road through this wood takes you suddenly into a clear space among the trees, and there you are surprised by this house with its curved balcony hanging over the slope like a ship's bridge. It is planned in three parts—living, sleeping and control. The low one-floor wing is the control—cooking-rooms and servants' rooms. The two-floor wing at right angles to this is on the one level for living and on the other for sleeping. The living-room is well placed in the angle which gets most of the sun. The building is in brick, plastered inside and out, with steel-concrete balconies and floors.

The House Treichl (ex. 49) is designed for four families on four separate floors, with a living-place for the caretaker. It is at the end of a road lined with old trees, with a long garden to the south of it. Every floor has a balcony on the south side, and the flat roof is used in common as a sun-terrace. As before it is planned in three parts—living, sleeping and control. The windows, which are of the sort moving sideways, are in two layers of glass: and great in size as they are it is to be noted that, though the Innsbruck weather is frequently very warm or very cold with strong suns and bitter winds, they and the heaters under them have been the cause more of an increase than of a loss of comfort.



Example 69

*Raymond Fischer (Paris).
House at Vaucresson, Seine-et-Oise (1932).
The south front and a view from the living*



JOSEF FRANK & OSKAR WLACH (Vienna)

48. *House B, Vienna XIII* (1930)

Professor Josef Frank (1887–), whose birthplace was in Baden near Vienna, is one of the most representative of present-day Austrian architects and one who, though he has been through troubled times—he was 27 years old at the start of the fighting in 1914—has done very good work for the art of his country. From 1920 to 1925 he was Professor of Building Structure at the Kunstgewerbeschule in Vienna and at the same time chief architect for the Austrian Housing Society. In 1924 he became controller, with Oskar Wlach, of the House and Garden Furniture Works and after 1927 was on the controlling committee of the Austrian Werkbund.

He had made a name as a house-architect before 1914 and from that time has ever been in the front of all Austrian attempts at housing work. It is only necessary here to give a list of some of his more important works: the housing developments in Altmannsdorf (1921), Hetzendorf (1922) and Traiskirchen (1922) all near Vienna; the Kongressplatz (1923) and Cervanteshof (1927) in Vienna itself, and, nearer to-day, the Werkbundsiedlung (1932) at Lainz, that hard, bright but delicate group of light red, blue and white houses with roof-gardens and brightly coloured sun-canvases.

In 1927 Frank was responsible for a two-family house at the Weissenhofsiedlung (see ex. 75), a building completely simple and at rest. In his book *Architektur als Symbol* (1930) he has given us his ideas on the art of building. Here are his answers to certain important questions.

“What is the art of building? An attempt at the expansion of time and space which have now become limited. Man in the morning of history had no need of the art of building because he had unlimited time and space; we, limited by our present conditions of existence, are attempting by art to make our rooms and gardens seem greater and so give us as much change as possible.

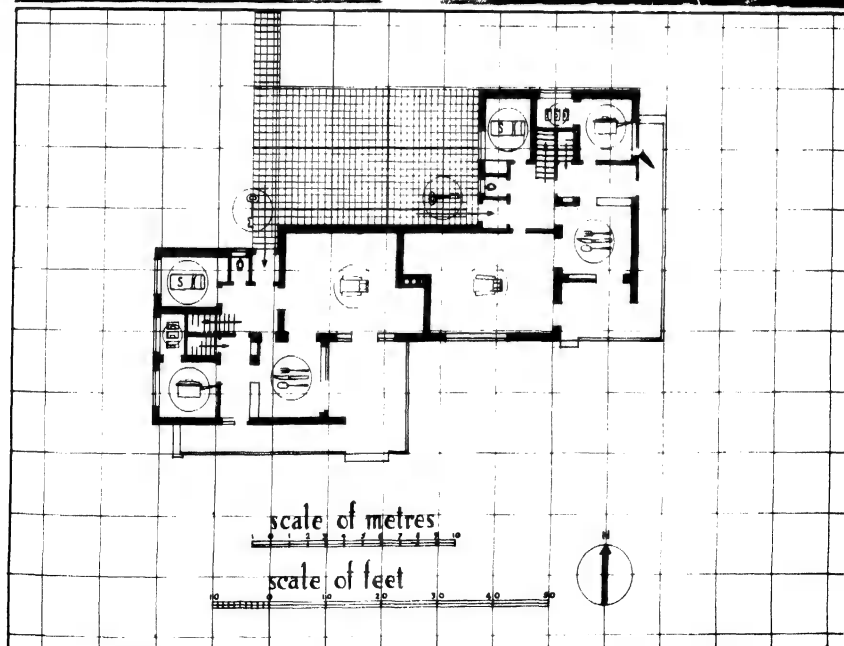
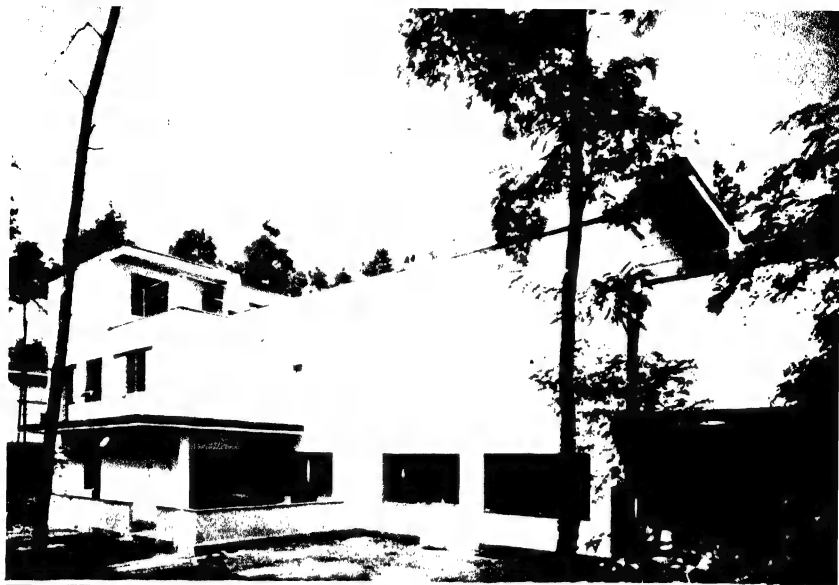
“What is the representative house of to-day? The house of the well-off American. We are still living at the stage of the early man in holes in the earth and under canvas.”¹

Oskar Wlach of Vienna (1881–), like Frank, was under Professor Carl König as a young man, and has been with Frank, from time to time, from 1912 to the present day. House B (ex. 48) is an example of their work—a brick house faced with coloured cement, with floors in polished wood or rubber and with all the windows in two parts with a space between to keep out heat and cold. The plan is interesting and uncommon, the separate groups of steps being designed to give a good system of connection, floor to floor, for the owners and their servants. The room for meals is two floors high and is cut off from the chief series of steps only by long curtains. On the first floor there is a music-room half-open to these steps and to the room for meals, so that from this shelf the sound of unseen music, as in the old days, may come down to those at table.

PAUL FISCHER & HEINZ SILLER (Vienna)

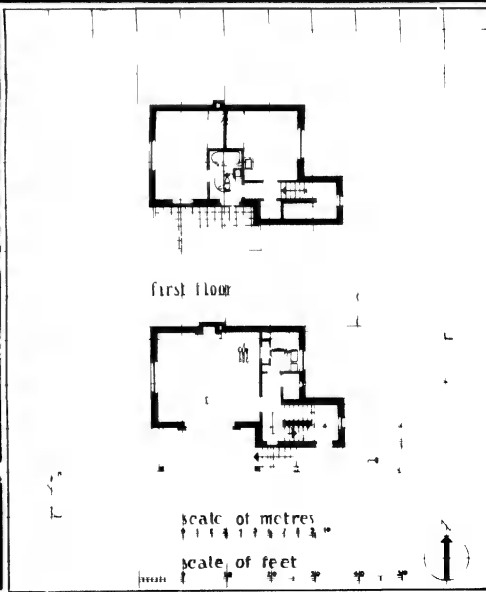
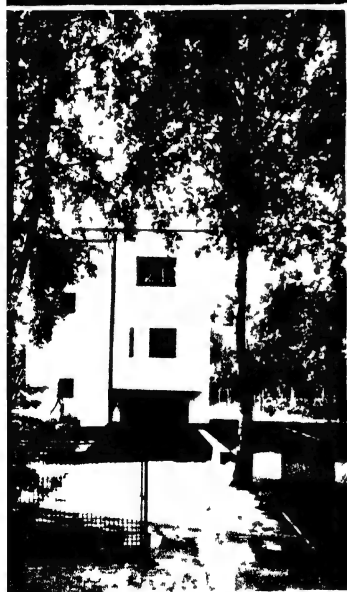
50. *House Dr A. F., Vienna (1931)*

These two architects are noted for the high level of their work in private houses in and near Vienna. Their designs are marked by authority and good taste—they are clear statements in simple words common equally to the language of the old and the new. The House Dr A. F. (ex. 50), on the garden outskirts of Vienna, has a well-judged position at the foot of a sharp slope. It was so placed that there might be two gardens, one in front with low trees and flower-beds and one at the back with wide spaces of grass and fruit trees and a terrace-bed for plants. On the south side of the house a room for physical training and a workroom were placed under street level by making use of the sloping position. A washroom and stores make the rest of this floor. The living-room takes up the greater part of its floor, and has on the



Example 71

*Walter Gropius (Berlin).
 Controllers' Houses at the Bauhaus, Dessau (1926).
 The south front.*



west a tall window and window-seat looking over the country falling away from the house, and on the east a wide band of windows looking into the fruit garden from the stage for meals. Facing east on the first floor is a bedroom and dressing-room with fixed clothing-cupboards. A small bedroom is placed on the south, and on the south-east angle there is a roofed-over balcony used for sleeping out, with steps going straight up to the roof-terrace. On the south-west is a small workroom with angle-windows giving wide views of the country. The house is plastered green and white.

PROFESSOR SIEGFRIED THEISS & HANS JAKSCH (Vienna)

51. *House in Vienna XIII* (1931)

Professor Siegfried Theiss (Pressburg, 1882-) was trained at the Technische Hochschule under Professor König and at the Meisterschule under Professor Ohmann. He is now Professor at the Technische Hochschule in Vienna.

Hans Jaksch (Hennersdorf in Czechoslovakia, 1878-) was trained at the same schools and under the same teachers. He and Professor Theiss have done a great amount of important work in Austria and Czechoslovakia. The range of their work is wide, covering post offices, military housing, churches, theatres, hotels, hospitals, housing developments, work buildings and town planning. The first sky-high building in Vienna, the Herrengasse, was designed by them.

The house in Vienna XIII (ex. 51) is an example of straightforward building with no tricks about it. It is planned on a limited position, and for this reason has three floors and one under-street level. The structure is in brick, plastered and colour-washed. The garden front is stepped back in terraces with tall windows overlooking them. On the street front the only windows are three small openings delicately placed in an unbroken wall. It is unnecessary to say

how truly pleasing is this design in its feeling of being private without turning its back over-pointedly on the street.

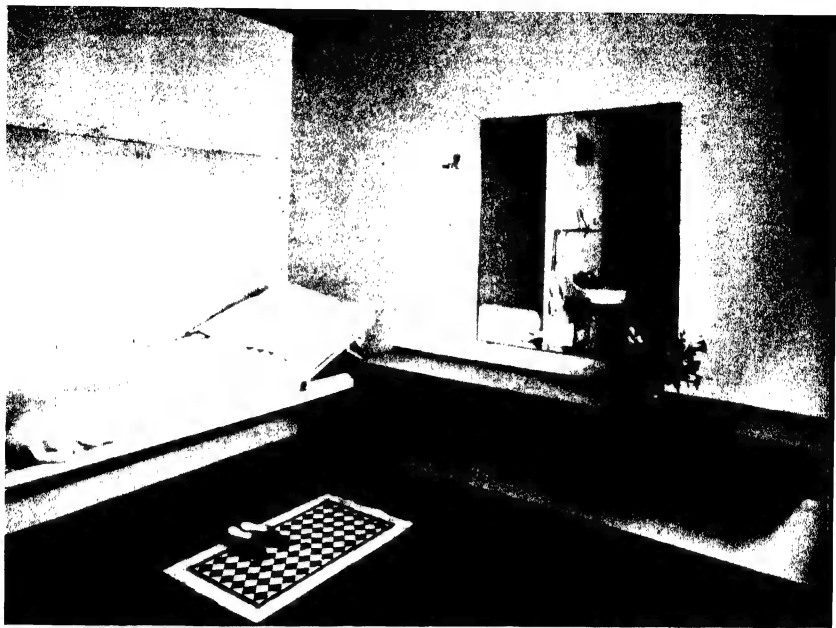
ARMAND WEISER (Vienna)

52. *House Hilde Goldstein, Vienna (1932)*

Armand Weiser (1887–1933) came from Zürich, Switzerland, and had his early training in Vienna. Then for five years he was working in Berlin with Oskar Kaufmann (1873–), the noted theatre architect who was responsible for the design of the beautiful little Komödien-Theater for Max Reinhardt. In 1917, after taking the highest degree in Science, he made a start for himself in Switzerland and the East, coming back later to Vienna where he did some work with Clemens Holzmeister.

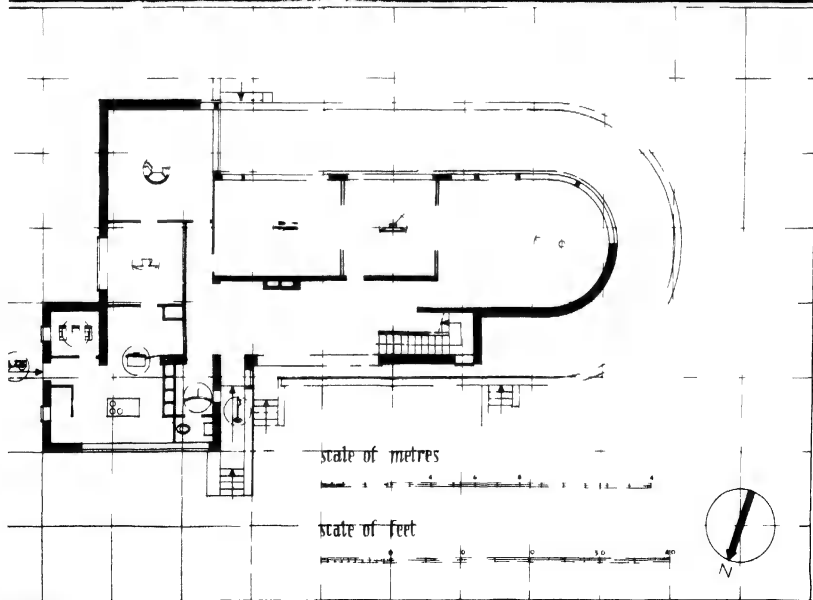
Hopes for a great future for him were cut short by his early death in 1933. His best work was done in houses, and he took an important part in the building developments of the Vienna Town Authorities about which a first-rate book was produced by him. He was a writer for a number of building papers and for six years was in control of the Austrian paper for architects—*Bau und Werkkunst*.

The House Hilde Goldstein (ex. 52) is in the new society part of Vienna in beautiful country looking over the town and the Danube. Its planning was conditioned by the special needs of its owner, who had been in opera in Vienna, and her family. The cooking-room and servants' rooms are on the north side with the front-door between them. The good-sized living-room is in the middle of the south front, looking over the garden, with the curtained-off place for meals at one side of it and the library completely walled with books at one end. These three rooms make an L-form unit with walls faced with squares of redwood. The owner's rooms are on this same floor, and on the first floor, with doors on to the open terrace, are the rooms for her young family and their teacher. The house is in brickwork coloured a light blue. It is specially well-designed in the way its windows, of the sort which may be



Example 73

*Gottfried Schramm (Hamburg).
Weekend House, Reinbek, Hamburg (1926).
Bedroom for a woman and the living room.*



moved up and down, are all in relation to the sun, the north side being solid and massed against the weather. It is designed with decision, and all details are planned with that care which is a certain sign of an architect's responsible feeling for his art.

FRITZ REICHL (Vienna)

53. *House Dr L. K., Vienna XVIII (1933)*

Fritz Reichl (Vienna, 1890-) was trained at the Technische Hochschule and was given the Engineer's Diploma in 1914. His work is international in range, and he has been responsible for works' buildings in Poland and Yugoslavia, houses in Hungary, Austria, Poland, Czechoslovakia, and a number of new adjustments in old buildings in more than one of these countries. He was first in the Schmerlingplatz Competition in Vienna.

House Dr L. K. (ex. 53) is on the slopes on the outskirts of the town overlooking the wine-gardens of Grinzing and Kahlenberg. It is a square solid building of two floors, strongly designed, and with an air of authority about it. The simply windowed spaces of unbroken grey walls are statements of a desire to be private and, on the other hand, to give a well-balanced light in the rooms inside. The house has an under-street level in which are placed the automobile-house, wash-house, servants' room and store-room. At street level are the living-room, workroom and cooking-room. The living-room takes up the complete garden front and has wide windows which make the most of a beautiful outlook. The top floor is planned with an expert hand, special attention being given to the placing of the fixed and unfixed furniture. The grouping of low furniture under the walls, the natural placing of chairs and tables in the living-room, the brightly ornamented floors, coloured curtains and openly spaced walls all give an air of good humour and comfort through the complete house. The walls are 18 inch brickwork with a quietly sloping lead-covered concrete roof. The garden has a swimming-bath, and is pleasingly planned with walks and fruit trees.

L. H. DE KONINCK (Brussels)

54. *House Canneel-Claes, Auderghem, Brussels (1931)*

L. H. de Koninck was placed first for a design for a concrete house in the 1933 competition got up by a number of Belgian business men interested in that material. This architect has done important test examples in steel-concrete structure, and gives as his reasoned belief based on experience the opinion that a house designed on his system may be put on the market at only 80 per cent. of the price of the normal present-day house in other materials.

House Canneel-Claes (ex. 54) is freely planned with wide windows uniting the house and garden. De Koninck has kept completely inside the limits of what was necessary and let himself be dependent on good material, a clear statement of purpose and well-placed fixed furniture for his effect. The wide living-room and room for meals are in one unit, lighted from three sides, with folding glass doors facing the garden. The chief bedrooms are on the south side of the upper floor, and have a long terrace to the south and east. The curved structure covering the floor-to-floor steps has a tall window of special glass bricks of the sort first designed by Dr Berlage. The frame and floors are of steel-concrete, the units being of hard and cell-form concrete. There is a hollow space between outside and inside wall-linings, screen walls are bedded on building-board and roof covered with building-board and asphalt. Window shelves are faced with oil-cloth which is used as a floor covering generally. Screen walls are in cell-formed concrete. It is clear that to the architect the outside has been less important than the inside, and that wherever there has been any doubt the outside has had to take second place.

VICTOR BOURGEOIS (Brussels)

55. *10 rue Marianne, Brussels (1932)*

Victor Bourgeois (Charleroi, 1897-) was trained in Brussels and is now working there as an architect. He was the designer of the

noted Cité Moderne in Brussels in 1921, and took part six years later in the Weissenhofsiedlung where he was responsible for house Number 10. In addition to a wide range of work in Belgium, chiefly private houses and flats, he is a writer of force and authority and one of the representative architects in *Bau und Wohnung*.

10 rue Marianne (ex. 55) is an expert example of the concrete house. Frame in steel-concrete, walls of common concrete outside and special concrete inside with an air-space between. Inside division walls of brick. It was designed as a private and business house for an engineer. The waiting-room is shut off from the hall in office-hours by folding doors, which at other times are folded back to make these two rooms into one unit. The street front has a south-west outlook, but the house is planned so that the chief bedroom and terrace on the second floor get the morning sun. The garden is specially pleasing. As may be seen from the air-view it has a long basin of clear water with a design round it of "moellons de la Meuse"—stones put down without regular joins—and to one side a simple stone seat. Under the wall are flower-beds and small trees. It is happily planned, and with no more order and direction than was necessary to make it in harmony with the house.

STA. JASINSKI (Brussels)

56. *House Anemone, Uccle, Brussels* (1933)

This group of six flats has been designed as one small unit so that it has in effect the look of a private house. The design is of the simplest, being an organization of two forward upright masses banded by balconies against the chief mass at the back. It has the common Belgian quality of being less delicate than strong; it gets its effect all right, but without polish, and seems designed for men of substance with little desire for the quieter tastes of living. The suggestion of solid weight is even stronger inside than out. But, by the force of this very weight, it has to be given one's attention and even approval.

OTTO EISLER (Brünn)

57. *House for Two Men, Brünn* (1931)

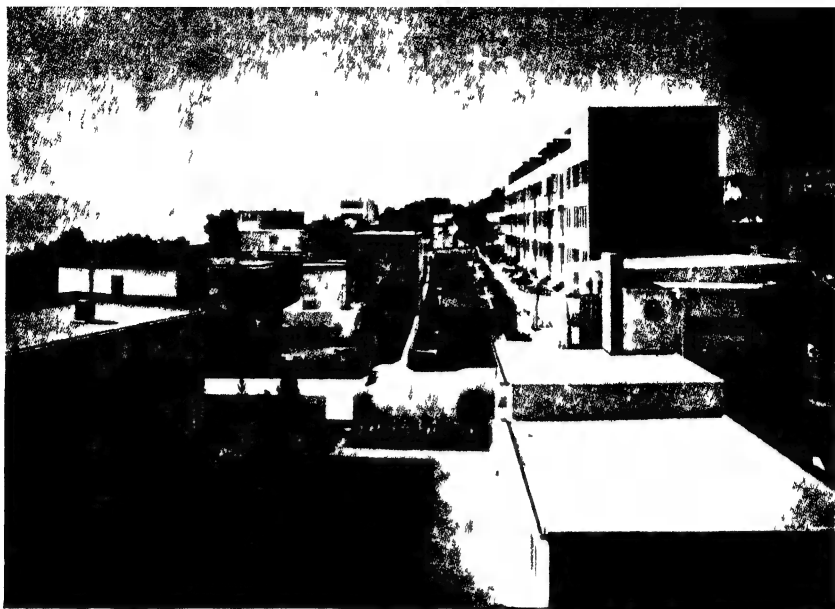
Otto Eisler (Bystrice N/P. Czechoslovakia, 1893–) was trained at the Technische Hochschule in Brünn and at the Tischlerfachschule in Blankenburg am Harz. In addition to private houses and housing developments in Brünn he has done the designs for the offices of the Phönix Co., the Wittreich and Jepa Stores in Brünn and a workers' rest-house in Maloměřice.

The House for Two Men (ex. 57) is in a good-sized garden sloping to the south with wide views of wooded mountains. It is a clean straightforward design, tightly planned. Its one living-room is faced south onto a wide terrace. The bedrooms are open to the balcony only through the hall outside them. The roof-terrace has a covered place for physical training and an overhead bath. The west side of the balcony and terrace is screened from the road. Design inside is quiet and delicate. The structure is of brick with a facing of stone material. In such simple limits there has not been so much feeling for space and solids in any other house-design in this book.

JOSEF HAVLÍČEK & KAREL HONZÍK (Prague)

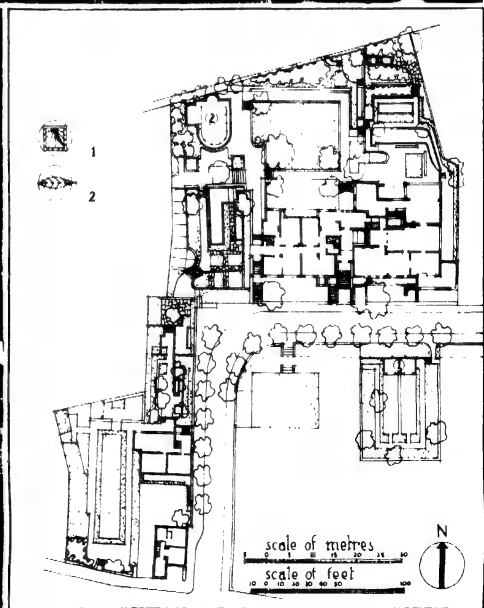
58. *House in Prague* (1931)

Josef Havlíček (Prague, 1889–) was trained at the Technische Hochschule and the Akademie der bildenden Künste in Prague. After working privately for a number of years he went into business in 1928 with Karel Honzík (Le Croisic, France, 1900–) who had been trained in the same school. Before this Havlíček had been responsible, with Polívka, for the Habich Store in Prague, and Honzík for a number of houses and flats and a book, *Moderne Wohnung*. Together they have done much important work in Prague, chiefly houses and flats and the offices for the



Example 75

*The Weissenhofsiedlung, Stuttgart (1927).
General view from the north-east.*



General Pensions Institute. Honzík is responsible for the building side of Prague's art paper, *Volné Směry*.

Their work is strong, clean and straightforward, based on a certain knowledge of structure, on attention to detail, and on a grip of the purpose in view. The House in Prague (ex. 58) is three floors high, supported by steel-concrete columns taking all floor and roof weights. The walls are of special hollow units made on the building when they were needed. An interesting detail is the round steel-concrete structure with screw-form steps from the room for meals to the garden. The cooking-room is half under street level, food being taken up by lift to the room for meals. But for the tall metal window to the living-room all windows are wood-framed. The inside of the house has been kept very simple, the furniture is well placed, the spacing of the living-room is new and uncommon. The living-wing is two floors high, with the upper landing of the steps forming a sort of inside balcony.

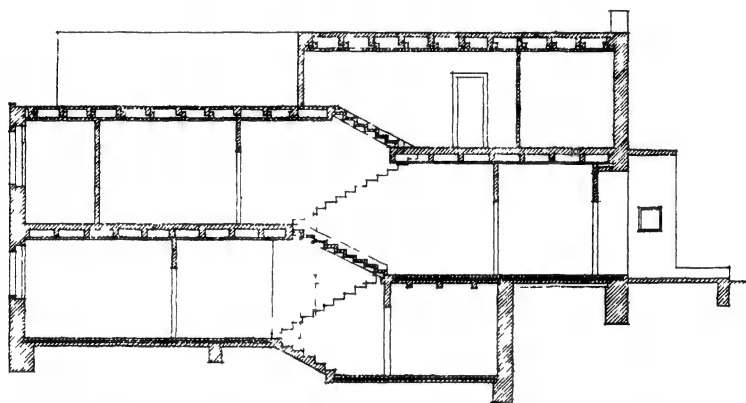
ERNST MÜHLSTEIN & VICTOR FÜRTH (Prague)

59. *House in Böhmisches Komnitz* (1932)

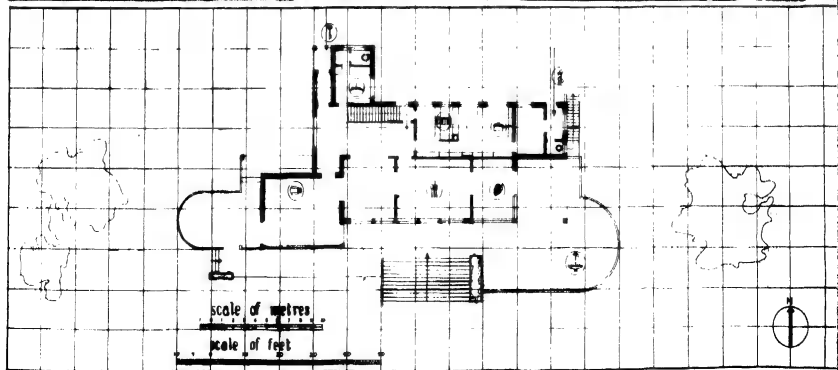
Ernst Mühlstein (Prague, 1893–) was trained at the Technische Hochschule and Kunstakademie in Prague—Victor Fürth (Horázdovice, Czechoslovakia, 1893–) at the first-named of these schools. They have done much important work in their country, chiefly in Prague, and their most noted examples are the House Continental Coutchuk A.G., Villa Schück, Ford Building, and Jeta Building in Prague and the Orphanage at Prague-Dejvice.

The House in Böhmisches Komnitz (ex. 59) is a representative example of the present-day house for an owner whose money is equal to his good taste, but it is full of points for more narrowly conditioned houses. It has been planned round the chief floor-to-floor steps, the sloping position being turned to good use by having the separate landings opening in turn to half the floor space at

every level. A line-picture gives a clear idea of this effect which made it more or less unnecessary for the slope to be cut into. The living-rooms are on the lower floor, the caretaker's room and store-rooms half under this level, owner's bedrooms in the lower half of the top floor and other bedrooms in the higher half. The chief rooms are faced south, the living-room and covered terrace have wide stretches of glass taking the sun on three sides. There is

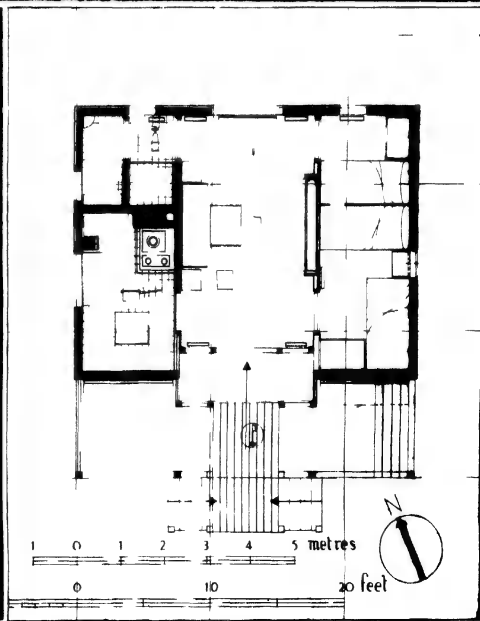


only one balcony, that to the higher floors. The windowing is quiet but well judged in view of the rough winter weather. The structure is brick faced with plaster, floors of concrete and wood, flat roof-terraces covered with zinc. The design inside is unforced and of first-rate quality and work. In my view of the outside the full effect of the design is in the expert use of common forms. To-day the architect with feeling keeps clear of the complex developments of past design, whose details are well tested for past conditions, and gets his effect where it has not been looked for by others.



Example 77

Richard Döcker (Stuttgart).
House M. G. Göppingen (1928).



J. J. P. OUD (Rotterdam)

60. *Houses for Workers, Hook of Holland* (1924–27)

61. *Houses in the Weissenhofsiedlung, Stuttgart* (1927)

J. J. P. Oud (1890–) put up his first house when he was sixteen. The effect of his early interest in the work and designs of William Morris may be clearly seen in this house which has a somewhat English look about it, an effect, by the way, commonly attempted by a number of Dutch architects at this time. He was then at the Quellinus Arts and Crafts School at Amsterdam, but the year after he went into the office of Stuijt and Cuijpers where the belief in history was equally strong. Two years later he took up his education again at Delft and Amsterdam and became a strong supporter of Berlage, one of the first Dutch architects to take up—in some degree and without letting go of the old ones—the new ideas in building. In 1911 Oud went to Munich, and for three months was working under Theodor Fischer, another architect with a sense of history. Fischer, however, was good on the theory of building and probably let Oud see something of the error of Berlage's ways.

In 1912–13 he undertook the planning of a number of workmen's houses and small public buildings at Purmerend, his birthplace, but he had still not got away from history and they might quite well have been designed by Berlage. It was not till Berlage himself came back from America with great accounts of the work Lloyd Wright was doing there that Oud became conscious of the new ideas slowly taking form all round him. He became interested in Cubist painting and Neoplasticism in which pictures were no longer representative of physical things but square-cut designs with strongly marked outlines. He saw that some such process of getting loose from unnecessary conditions might be equally good for the architect. His design for a street of seaside houses (1917) is a pleasing outcome of this change in outlook.

From that point on Oud became increasingly free from his early

connections, and the fertile ideas of the Cubists, with whom he was by this time working in harmony, had a healthy effect on his feeling for form. He was given the building of a number of groups of workmen's houses, and in 1918 was made Architect for Rotterdam. He was twenty-eight at this time. Almost all his work after this had to do with housing developments in Rotterdam.

The examples of his work given here are not, however, taken from that town. Oud is, in the writer's opinion, one of the best architects working at the present time, and certainly the best housing architect we have seen. His workmen's houses at the Hook of Holland (1926-27) and the Weissenhof Housing Exposition at Stuttgart (1927) are all the support this statement is in need of. The houses at the Hook of Holland are in a long low terrace and have the same seaside quality as his 1917 design. There is a small square off the middle, the in-turning angles of which are used for stores as are the curved-off ends of the street itself. A long balcony makes the complete design one smooth unit. The use of colour is delicate and quiet—yellow brick base, dark grey band by the blue door, black ironwork. The low parallel lines curving smoothly away give one a feeling of rest and, at the same time, of decision. "Normal" is possibly the word which comes first to one's mind in connection with these beautiful structures. The houses at Stuttgart are equally good. There are five of them, stepped on a small slope with banded windows and delicate railings on their door-wide balconies. Certainly no one has given simple solids more quality than these.

H. TH. WIJDEVELD (Amsterdam)

62. *House de Bouw, Hilversum* (1928)

H. Th. Wijdeveld (1885-) was trained in art schools in Holland, England and France, and had experience in different offices in those countries and in Germany till 1915. He has done important work in Amsterdam, being responsible, in addition to planned

developments in that town, for offices, stores, workmen's housing and a number of private town and country-houses. He was the designer of the Dutch part of the Paris Exposition of 1925 and the Dutch Pavilion at the Antwerp Exposition of 1930. In the last ten years he has been in control of the art-paper *Wendigen*, and President of the Amsterdam group of Dutch architects. He is now head of the international Académie Européenne Méditerranée at Le Lavandou. Two books have come from his pen, one *Cultuur en Kunst*, the other an argument for an International Art Group—examples of his deep interest in education.

The House de Bouw (ex. 62) is an interesting attempt at a new statement of Dutch feeling in present-day forms. The expert brickwork of different quality, the broken and curved lines, the windowing in tall narrow openings and long low bands, the strong massing and moulding of solids, are all signs of his force of mind as an architect and his able control of complex masses. A smaller architect might have let the strong rhythm of this design get out of control and the general form be covered up in the thick lines of brickwork, but Wijdeveld has kept everything in relation to the complete unit and made of the different parts an organization far greater than the addition of their separate effects. As a system of massed solids and strong uprights the House de Bouw is a first-rate example of reasoned form.

The plan is well judged and makes the most of its space: living-rooms are grouped on the south side of the lowest floor with a wide brick terrace in front. The cooking-rooms and automobile-house are in the north-west wing. Bedrooms are on the first floor and servants' rooms on the top. There is special connection between the workroom and the owner's bedroom. The complete house, inside and out, is expertly done, and an example of brickwork representative of his countrymen's unequalled use of that material.

J. B. VAN LOGHEM (Rotterdam)

63. *Rest-House at Driebergen* (1930)

J. B. van Loghem (Haarlem, 1881-) was trained at the Technische Hochschule in Delft. In addition to doing a wide range of work in Holland, chiefly in Haarlem, Amsterdam and Rotterdam, and designing a Workers' Town in Central Siberia for the U.S.S.R., he is the writer of an important book, *Bouwen* (1932), and has regularly given his views in a number of Dutch, German, French and English papers. The Rest-House at Driebergen (1930) is planned round the long hallways on the two floors, and with these as a free connection between the two wings has a more or less normal distribution based on the need for giving a number of different families private rooms. The first-floor hallway has a long flower-box running from end to end, and this and the long windows give it the look of a plant-house. The long low building is placed among straight trees on a flat stretch of land. The structure is framed with a curtain wall of brick and cell-formed concrete, rough plastered inside and white outside.

BRINKMAN & VAN DER VLUGT (Rotterdam)

64. *House Sonneveld, Rotterdam* (1933)

J. A. Brinkman (Rotterdam, 1902-) had his education in Delft. From 1925 on he has been working with L. C. Van der Vlugt. They have been responsible for much of the newest work in Holland, the most noted of their designs being for the Theosophical Society's Building in Amsterdam, the House De Bruyn, Schiedam, and most important of all the Van Nelle Works in Rotterdam, which are without doubt the best example of great scale design for industry in Europe. The House Sonneveld (ex. 64) is an interesting example of planning and structure. It is steel-framed on steel-concrete supports with walls of 4 inch brickwork outside and 4 inch cell-form concrete inside with a 3 inch hollow space

between. Floors are of cell-form concrete units specially made for wiring and tubes, windows steel-framed and doors in layer wood. The folding screen between the library and living-room is of rubber. The plan is uncommon, the lowest floor being taken up with the hall, workroom and servants' rooms, store-room and heating being under street level, while living-room and cooking-room are on the first floor and bedrooms over. There is connection between cooking-room and stores by special steps, the chief steps going up from the hall to the roof-terrace. The cooking-room and automobile-house wing have windows on the north and east, forming a wide unbroken screen wall for the living-part. The windowing on the west front is interesting: long narrow openings for the hall, a band of windows for the living-rooms and separate windows for bedrooms and bathrooms. The living-room terrace has a curved series of steps down to the garden. The complete design has the attraction of the clean cut and well reasoned.

LE CORBUSIER & PIERRE JEANNERET (Paris)

- 65. *Les Terrasses, Garches, near Paris* (1926-27)
- 66. *House in Ville-d'Avray, Seine-et-Oise* (1927-28)
- 67. *Savoye House, Poissy-sur-Seine* (1928-30)

New houses in France have generally some connection with Corbusier (Charles-Édouard Jeanneret) (1888-), whose birthplace however was at La Chaux-de-Fonds in Switzerland, and who did not go to Paris till he was twenty. His work is not so much French in form as international. Almost more than any other architect Corbusier has been responsible for the invention of international building-forms and for the present existence all over the earth of buildings which are representative of new ideas common to all nations and not old ideas special to one. The arts and materials of the smaller divisions of the earth are giving way before the machine and international materials such as concrete and steel.

Naturally Corbusier did not make a new order of building out of nothing. What he did do was to make Europe conscious of the change in structure which was and still is in process. His power of free thought may be seen in his *Vers une Architecture* in which he gave a new turn to the old ideas of mass, design and plan in his "Helps for the Architect's Memory".

"MASS. Our eyes are made to see forms in light.

Simple forms are beautiful because they have a clear effect.

Architects to-day do not make these simple forms.

Working by rule engineers make use of forms from geometry, giving pleasure to our eyes by geometry and to our mind by mathematics; their work is on the road to good art.

"OUTSIDE. The mass has an outside, the divisions of which are produced and controlled by the mass itself, giving it its special qualities.

Architects to-day have over-much fear of the geometry of the outside.

The great questions of present-day building will be answered by geometry.

Controlled by the fixed needs of a necessary process, engineers make use of the first rules of form. In this way clear and moving forms are produced.

"PLAN. The plan is the first cause.

Without a plan there is no order, no law.

The plan has in itself everything necessary for the complete experience.

The great questions of to-morrow, made important by public needs, put the question of the plan in a new form.

Present ways of living are in need of, and waiting for, a new sort of plan for the house and the town."¹

How came this new and clear outlook in Corbusier? His father made watches and his mother made music. At school his first work was making pictures in metal. Then he made a house for his teacher. He went to Vienna and was with Josef Hoffmann,

but only for a day or two. That was enough for him. Then at twenty he went to Paris and put in two years with Perret.

Auguste Perret (1874-) was the son of a builder and his chief interest has naturally been in structure, he and his brother keeping on the business after the father's death. As early as 1902 they put up a house in Paris with a steel-concrete frame. This was one of the first examples of the use of the material in this connection. The House of Chana Orloff (1926) and the House of Braque (1927) at Boulogne-sur-Seine are framed in this way. The buildings of the brothers Perret are examples of Roman detail used with new structure-forms in that almost simple way which is so French. The same rough and simple quality may be seen in the work of Tony Garnier. Even the noted Perret churches, with their openwork walls, might have been designed by some Franco-Roman farmer. These two years with Perret did Corbusier a great amount of good. His interest in structure came to the top and his powers were now taking form, though as may be seen from looking at his work the maker of houses did not ever quite give up being in addition a maker of pictures. At twenty-two he went into the office of Peter Behrens in Berlin, but after six months went off on a journey to Asia Minor, Greece and Italy. His note-books of this journey are full of delicate pencillings—clear signs of his strong sense of form. The Parthenon of Ictinus and Michelangelo's St Peter's had a deep effect on him. "Stones are dead things sleeping in the mines but the arches of St Peter's are like a gripping play,"¹ he said. He took an office in Paris, and between 1914 and 1918 put up his first important house in his birthplace in Switzerland. The balance of this house is Greek: its free and simple air is the first sign of a new way of living. This early work is enough in itself to put Corbusier in the first order of planners. As planners Corbusier and his near relation Pierre Jeanneret gave of their best in the design for the Palace of the League of Nations. Corbusier and Pierre Jeanneret were at work together after 1922.

The Ozenfant House near the Parc Montsouris (1923) was designed for the important painter with whom he had been working and

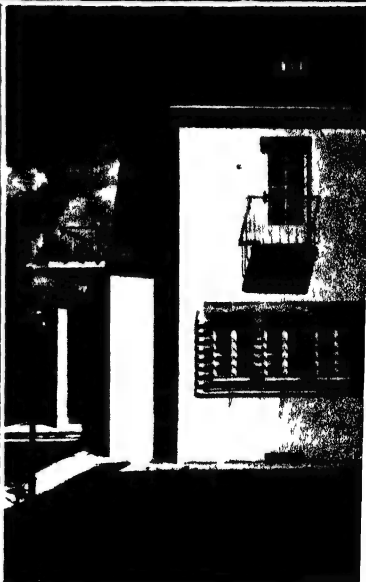
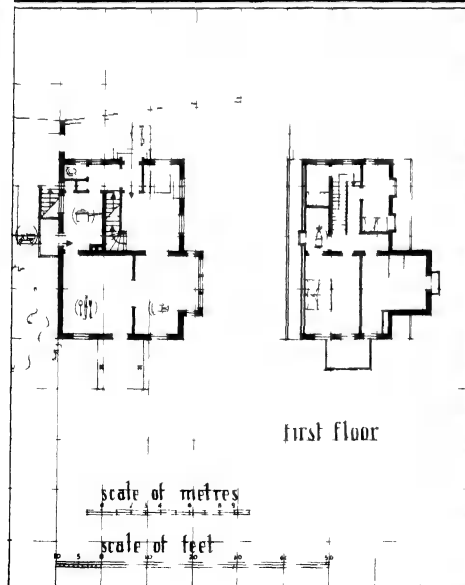
was Corbusier's first serious and self-conscious attempt at the new building. In it he took the measure of these new conditions and needs. Its planning on the street-angle position is expertly done and well balanced. Then came the Miestchaninoff and Lipchitz concrete houses at Boulogne-sur-Seine (1924) like well-ordered vessels over whose bridges and railings it would not be surprising to see the sea waves coming.

In the house on the Lake of Geneva (1925), designed for his father and mother, we have a great example of straightforward planning—so simple that it seems a natural growth of its position and beautifully free from those details which sometimes seem bursting with theory. The Pessac Housing Development at Bordeaux came in the same year. When I first saw it from a long way off it seemed like a group of airplanes resting there. The development is interesting in colour, form and plan, but is far from being among his best work.

The general interest caused by the Pavillon de l'Esprit Nouveau at the Exposition Internationale des Arts Décoratifs in Paris in 1925 will still be present in our memories. The Pavillon was part of a group of town flats 14 metres high. A pleasing part of this well-ordered unit was the terrace-garden with a tree in full growth. For almost the first time we saw furniture by Thonet, stone-cuttings by Lipchitz and paintings by Léger, Juan Gris, Ozenfant, and Corbusier himself going with new building forms.

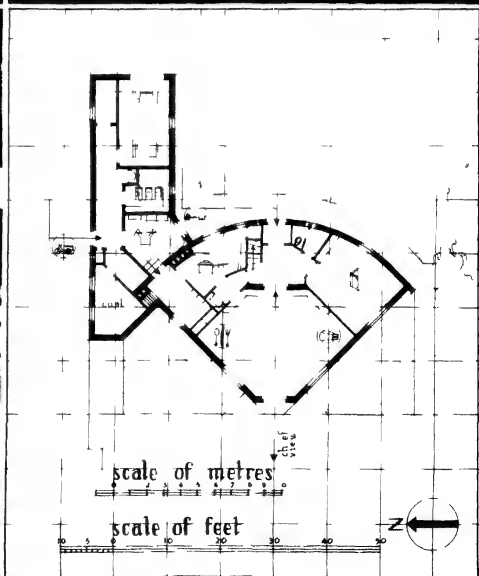
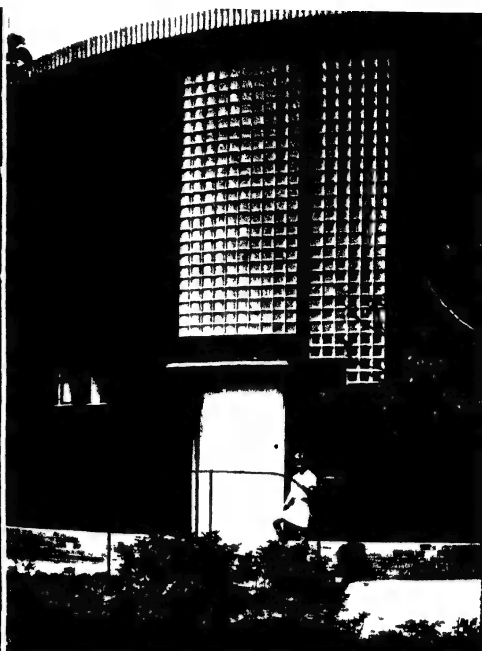
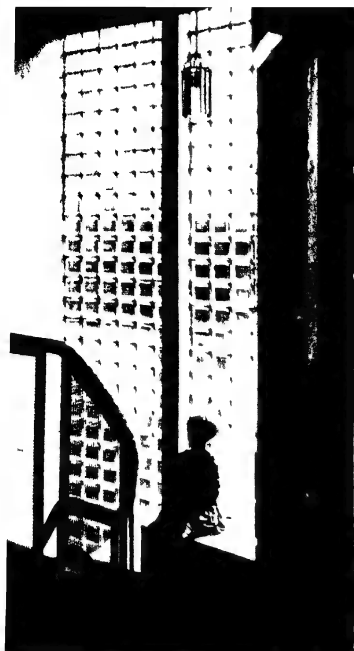
I will say something later about his house for two families in the Weissenhofsiedlung (ex. 75). The house at Garches, Les Terrasses (ex. 65), is in every way representative of Corbusier's work—in its garden terrace, outside steps, range of windows opening sideways, box-like balconies, and details as of a ship or an airplane. It is in concrete, even the book-shelves and fixed furniture being of this material, and the frame is supported on steel-concrete columns.

Ex. 66 is the new part of an old house at Ville-d'Avray (1927–28). This long narrow building is well placed among open woodlands in which Corbusier has put up a garden-house whose pleasing



Example 79

Professor Ludwig Ruff (Nuremberg).
House H. Mögeldorf, Nuremberg (1928).
The roofed door to the garden and the
windows of the living room.



qualities say much for his power of uniting natural forms with forms taken from geometry. Ex. 67, the Savoye House (1928-30), is the most uncommon and at the same time the best of all his houses. It is in open country and is supported on open-spaced steel-concrete columns which give it the look of a house in the Pacific Islands. The walled part of the lowest floor is a dark green colour; the columns and the first floor milk white; the roof-screens light red or light blue. The hall is on a level with the field outside and from it screw-form steps and a sloping footway take one up to the living-room and the garden terrace on the first floor. In addition, the cooking-room is on this floor. From the terrace the sloping way goes on again to the roof-garden where, under cover of the curving light blue screens, there is a place for sun-bathing. Paul Valéry said that among buildings "there are some with voices and some without but only one or two which make music".¹ Here is one at least which is as delicate as a song.

Thousands who have not seen a house by Corbusier will certainly have come across those words of his: "A house is a machine for living in. Baths, sun, warm and cold water, heat at any time of the day, the storing of food, keeping healthy, the beautiful in the sense of harmony. A chair is a machine for being seated in, and so on."² Some have their doubts about him because of his humour and others because of his dry commonsense. However, is it necessary to say that when Corbusier makes the point that a house is a machine it is not a suggestion for living like volts in an electric plant? He is putting with the force which is natural to him the argument for a more reasoned house.

Corbusier's first book, *Vers une Architecture*, came out in 1923. It was put into German in 1926 and into English in 1928. It is not very common for a man of art to be able to put his ideas into words, but Corbusier's words are so sharp that their effect on architects of the new school may be seen all over the earth.

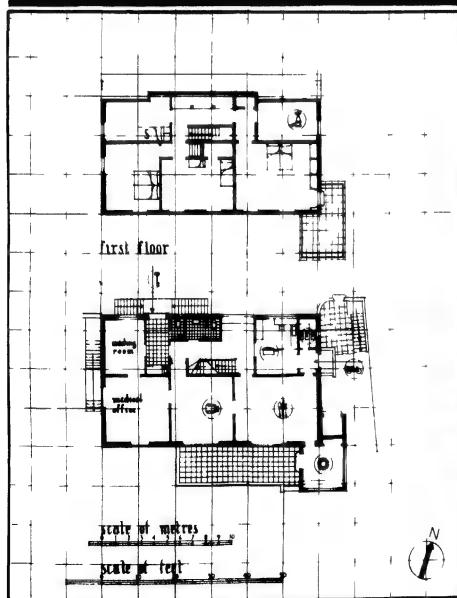
ANDRÉ LURÇAT (Paris)

68. *House Hefferlin, Ville-d'Avray, Seine-et-Oise* (1931-32)

70. *76 rue d'Assas, Paris* (1932)

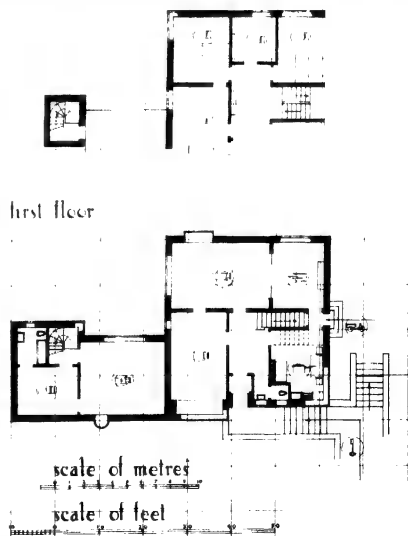
André Lurçat, brother of the painter Jean Lurçat, first saw the light in Lorraine in 1894. After training in Nancy and Paris he quickly made a name for himself as an architect of uncommon ideas and force of mind. His buildings are quietly designed and make no attempt to be full-dress events in the history of his art, and he keeps himself so free from overstatement and advertisement that his work is far from being as widely talked about as it might be. In 1929 he got out a first-rate and level-headed little book on building, the first of a group of *Manifestations de l'Esprit Contemporain*. In these pages he puts clearly and simply, though not quite with the carefree humour of Corbusier, most of what it is necessary to say about the art of to-day. He comes out with no strange and important-sounding theories and is not unbalanced by the surprising qualities and developments in building in the last twenty years. In fact he is somewhat unhappy about everything he has done. He is one of those who see the good only as a stepping-stone to the better and the better as no more than a rough outline of the best. "It would be a serious error", he says, "to say that an art of building might be based on limited needs or overmuch care of money. Past centuries are examples to us of the fact that no art of building comes to a free and full development other than in times of general wellbeing....But there is a very true and unchanging law in this connection which might well be made use of in every building to give it quality and material value; that is, that a building simply planned and made with simple materials has a good chance of being beautiful."¹

He is chiefly noted for his houses and flats, all of which are in steel-concrete, a material which he puts to very good use. It is like him to be true to a material whose bad points he is sharply conscious of, but that it is the chief material of the future he is quite certain.



Example 81

Hans Volkart (Stuttgart).
 Medical man's house in Welzheim, Württemberg (1928).
 The south front, a bedroom and the head of the steps.



In fact, it is Lurçat and other French engineers—he is architect-engineer—who have been responsible for the best examples of its use—Freyssinet's market hall, bridges and airship buildings. Among Lurçat's best works are the painter's flats in Corsica and the school for the Communist town of Villejuif (1933), a measure of what may be done in giving the right conditions for learning. The House Hefferlin (ex. 68), in steel-concrete, is in a garden among trees. All the floors are covered with smooth burned brick. As in most of his houses there is a most pleasing and delicately designed roof-garden. The living-room, library and room for meals are grouped openly together with French windows from floor to ceiling looking over the garden. Fixed furniture is used wherever possible, and this being chiefly clear of the floor—for purposes of cleaning—has not that solid look which massed furniture generally has. Weight, in fact, is a quality not attempted in this house. It has nothing in common with those houses where ideas of great weight are put into designs and materials of ever greater weight for owners who—but we will say no more.

The second example, 76 rue d'Assas (ex. 70), the architect's flat in Paris, is representative of his almost Puritan taste in living-rooms. The unornamented walls and smooth floors are signs not of fear of ornament but of love of order.

RAYMOND FISCHER (Paris)

69. *House at Vaucresson, Seine-et-Oise (1932)*

Raymond Fischer (Paris, 1898–), trained at the École des Beaux-Arts, is a strong supporter of the free plan, the mass-made house and international building forms. Reason not feeling, theory not natural growth, are the forces of which his work is the outcome. This one-sided tendency is probably the cause of a certain loss of attraction in some of his designs. He has been responsible for a wide range of work in France—private houses, hotels, flats—and his writings have been printed in a number of papers. He was the

representative of France at the Moscow Congress. His house at Vaucresson is placed in wooded country near Paris. Structure is steel-frame with curtain walls of brick lined with grass-boarding with an air-space between and faced outside with light red brickwork. It is two floors high with wine-store and boiler-room under. In planning it is almost the simplest example in this book, the lower floor being three parts taken up with the living-room, from which the screw-form steps go openly up to the first floor, so taking up the least space possible. To the west is the cooking-room. The first floor has three bedrooms, the two side units having a wide band of windows in their side walls and the middle one the full opening of the centre structure with a small terrace to the east. In other ways the house is less pleasing. Probably in his reaction from the teaching of the École des Beaux-Arts Fischer has gone in an opposite direction, and the effect of this is clearly to be seen in the hard massing of unbroken brickwork round the centre space of glass.

WALTER GROPIUS (Berlin)

71. *Controllers' Houses at the Bauhaus, Dessau* (1926)

Walter Gropius (1883–) is a Berlin man and comes of a family with a long connection with building and art. His father was on the Berlin building committee and his father's brother a noted architect of the German Neo-Classical school. As a boy Walter Gropius made a decision to keep up the family record, and after a short time at the Technische Hochschule at Berlin-Charlottenburg and at Munich, which was, however, quite long enough to let him see the common tendency among teachers to get art mixed up with history, he went to Spain and England for two years and then took up a position with Peter Behrens. But before this, in 1906, he had been given the building of a number of workmen's houses on his father's brother's property in Pomerania, and though the structure and design of these is still regularly balanced

on the old lines, there is certainly something in them of the buildings he was to make his name by before long.

In 1910 he was working for himself, and in this same year he and Adolf Meyer undertook the building of the Fagus works, whose great walls of windows and clean straight lines were something new in industry and a turning-point in building generally. In 1914 he became Chief of the part of the Werkbund Exposition at Cologne given over to Industry and was responsible for the Hall of Machines which, though a much less important work than the Fagus building, was the one which made his name and gave him his position among the best of the younger architects. Between 1914 and 1918 he was in the army. In 1918, after the fighting was over, he was made Director of the Grossherzogliche Hochschule für Bildende Kunst at Weimar which, under his organization and development, became the internationally noted Bauhaus. From this point on he became increasingly interested in housing in relation to society generally, and in mass-building as the natural and best way of keeping in step with the present violent change in our conditions and the sudden expansion in our ideas of what is possible and necessary. In his housing developments he made use of new ideas of design and new systems of building, and the effect on his work of new theories in painting may be clearly seen in his early designs at this time.

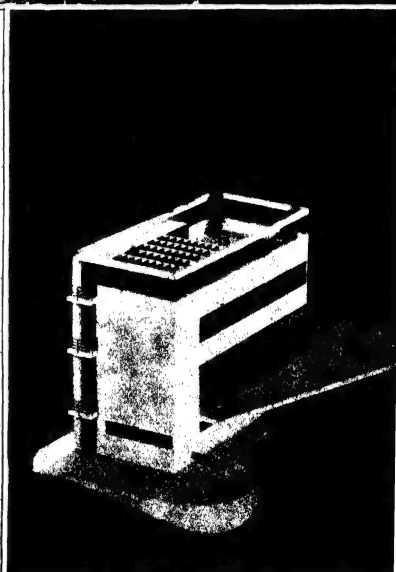
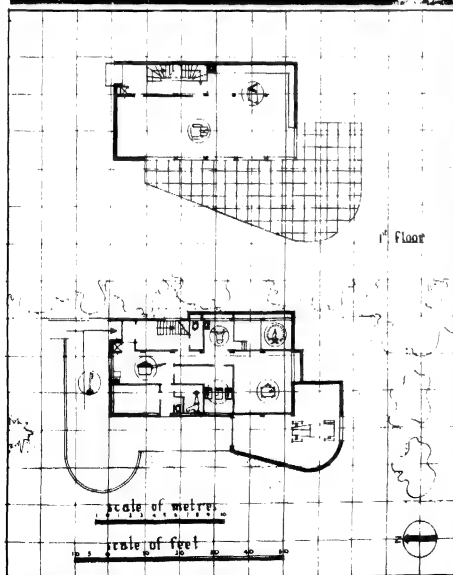
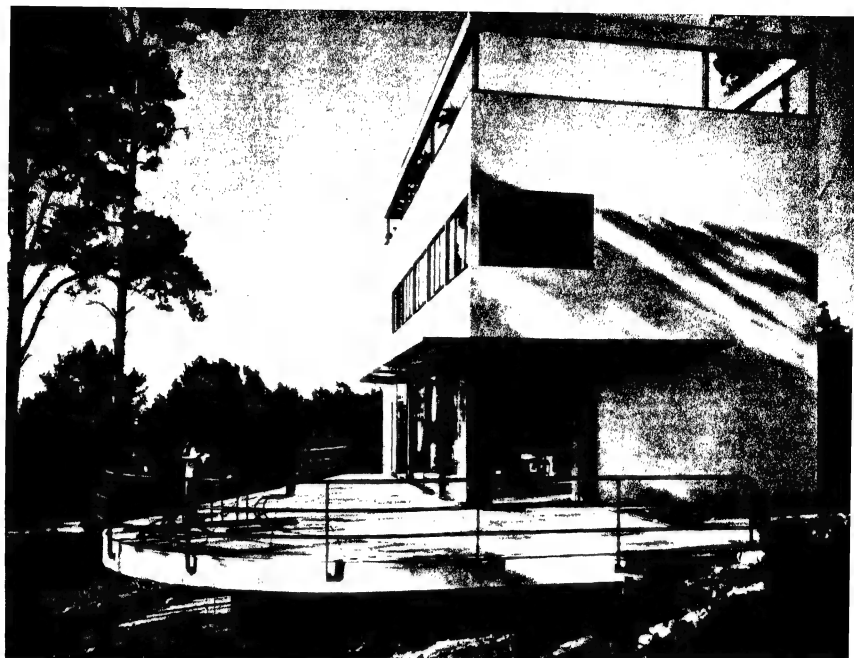
But it was not till the Bauhaus was moved to Dessau in 1925 that tests gave way to decision and he became conscious of his powers. Gropius had undertaken the building of the new school, and this and a group of houses in connection with it were complete in 1926. It is among the best examples of the architect's art in the last hundred years and is probably, after Corbusier's design for the League of Nations Palace, the best example there is of planning for present-day needs on an important scale. In size and in quality it is a great building. Its strong clean lines, massed windows, simple spacing and clear rhythm make a living organization of what is commonly no more than a group of walls and roofs. Good building is like good prose, the clear statement of

ordered thoughts working to a common end. In the same way there is verse in building, but verse architects so frequently do their best to be surprising and different that it is a physical comfort to let one's eyes take in the truly normal qualities of strong smooth prose.

In 1928 he went back to Berlin and became a private architect again. He was first in the competition for the Dammerstock Siedlung at Karlsruhe, his plan being used in 1929, and in the Federal Government competition for the Experimental Siedlung at Berlin-Haselhorst, though this second undertaking came to nothing. In 1929 and 1930 he had important housing work to do in Berlin and Frankfort—chiefly flats and workmen's houses.

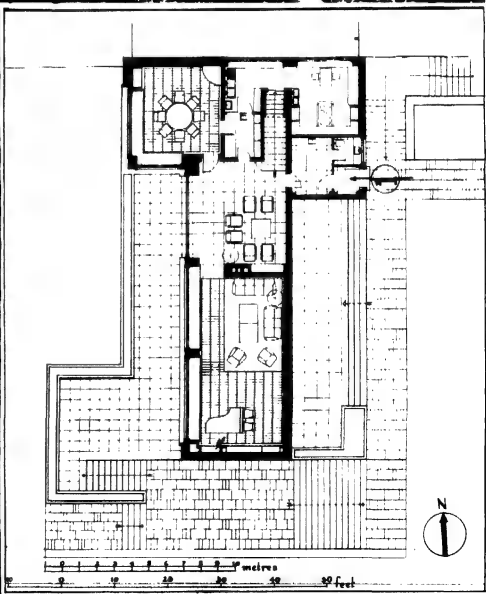
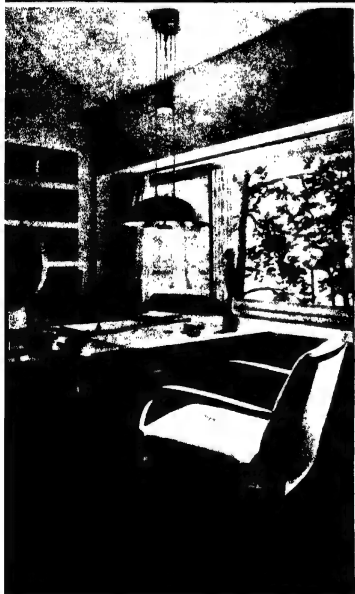
The example given here (ex. 71) is of one of the Bauhausmeister's houses at Dessau. It is for two families and, with three others like it, is pleasingly placed in an open space among trees. These houses are well planned and strongly designed but, not being on the same scale as the Bauhaus itself, are somewhat weighted down for their size. This is probably an outcome of Gropius's tendency to make the mass of a building overstrong by the use of square-cut solids and well-marked windows. But this is an error on the right side and one which might well be noted by a number of architects whose tendency is in the opposite direction. "Man gives quality to his works when he puts masses, materials and colour into relation with one another. It is in this operation that value is formed and not in putting on an outline or an ornament from the outside."¹ Gropius is at his best when working on a great scale, as in mass-buildings and housing developments, where there is room for him to give free play to his power for grouping and ordering.

His views on present-day needs in building were well put in a paper given by him to the Design and Industries Association on May 16, 1934. This is what he says: "Good building is dependent on a controlled nation-wide planning; on a looser division between town and country through the new distribution of towns; on a stronger connection between farming and industry; on the planned



Example 83

*The brothers Luckhardt and Alfons Anker (Berlin).
House at Rupenhorn, Berlin (1929).
The south-west angle and an air-view from the
north-west.*



*Erich Mendelsohn (Berlin).
House Mendelsohn, Rupenhorn, Berlin (1929).
Air-view from the south-east and detail of the
work room.*

adjustment to its special conditions of the number of persons living in a place; on a living connection between the places for work, education and housing; and on the invention of the best possible house. The brain work—or, as one might say, the indoor tests—of this new building has now been done and made ready. The purpose of to-morrow's architects will be to give this knowledge to society in general."

GOTTFRIED SCHRAMM (Hamburg)

72, 73. *Week-end House, Reinbek, Hamburg* (1926)

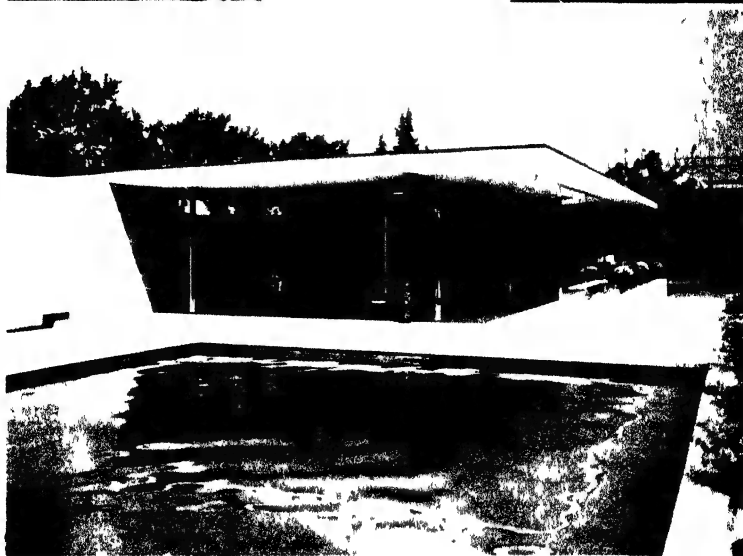
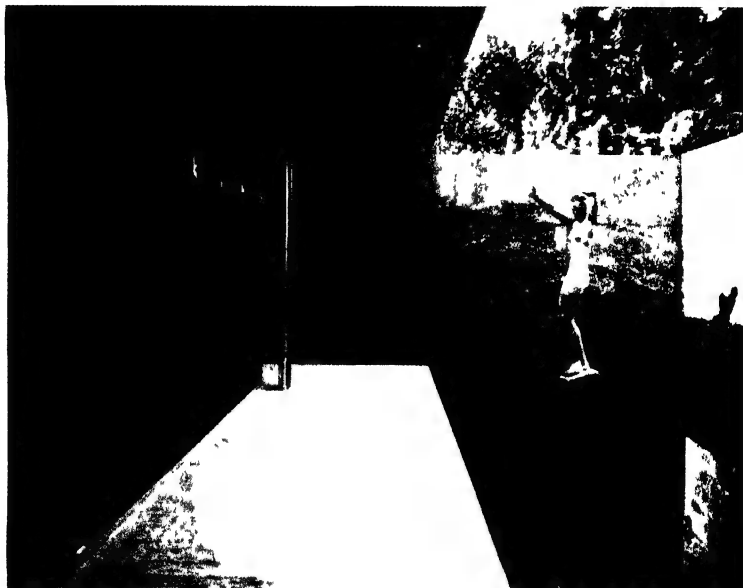
True design for purpose in a quiet straightforward way is the representative quality of Schramm's work. His structure is clean and reasoned, and in the selection of materials his approval of new developments is balanced by his feeling for the old. His buildings are massed with care and decision, solids and openings in well-judged relation, light and shade in delicate adjustment. The Week-end House (exx. 72, 73) is a good example of a play-and rest-house designed for use at any time of the year. The position in the better part of Hamburg at Reinbek is well designed with screens of trees, wide spaces of grass, a sand hollow for play, flower-beds and walks of stepping-stones through the grass. The house to the north-west of this garden is screened on two sides by trees and faces south. There are no windows on the north. No space is wasted in the planning, and upkeep is cheap. The suggestion of the complete building is one of happy and care-free living and a love of sunlight and clean air. The chief floor is high over the garden with the automobile-house, gas apparatus and pump placed under it. Connection between the automobile-house and the hall is by inside steps. The living-room, which takes up most of the chief floor, is heated by an open fire, but most of the other rooms have gas-heating. The terrace is glass-screened on two sides and open to the south with special steps into the garden. There are long glass doors between it and the living-room.

The planning of the top floor is uncommon, probably because of special needs, the middle point of distribution being the bathroom. The bedrooms may be made into one by moving the screens separating the different beds. Connection between balcony and flat roof is by cat-steps. The house is plastered white, floors done in brick units and oil-cloth, roof in concrete and asphalt roofing material. Inside design is simple, but brightly coloured and delicately judged as to furniture. The windows are wood-framed, painted yellow.

KARL SCHNEIDER (Hamburg)

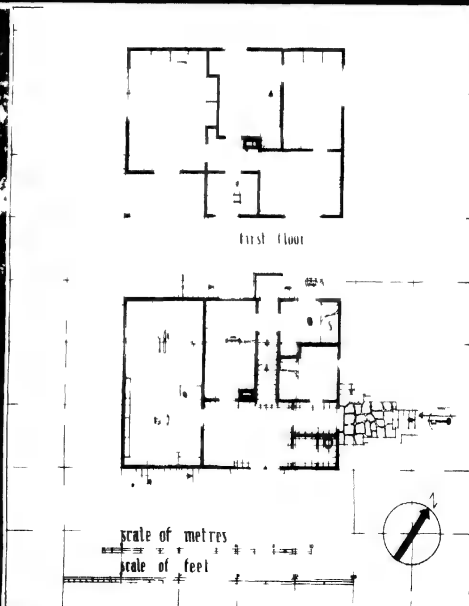
74. *House at Altona-Othmarschen, Hamburg (1927)*

Karl Schneider (Mainz, 1892–), after experience with Behrens, Gropius and Straumers, is now working in Hamburg. So great is his output that between 1925 and the present day he has done as much work as all the French and English representatives in this book put together. He has been responsible for groups of flats in Hamburg (chiefly in brick) and for a good number of houses in different parts of the country. He was, in addition, the designer of the noted Omelka-Palast motion-picture house in Hamburg (1927–28). The House at Altona-Othmarschen (ex. 74) is the best example of his work in private houses. The weather in North Germany is not the best possible, but this house makes the most of it with its wide windows facing south over a deep terrace. The cooking-rooms and hall are done in natural brick, the rest of the brickwork being plastered, a change of material which has a happy effect in the general massing. The low clean lines of the building on the wide brick terrace are in pleasing relation to the garden. Hall and upper landing are walled with glass. Over the smoking- and music-rooms is a long terrace screened overhead from the weather by a curved steel-concrete roof.



Example 85

*Ludwig Mies van der Rohe (Berlin).
Garden House, Barcelona Exposition (1929).
Detail of the water-garden and a general view.*



AN INTERNATIONAL GROUP

75. *The Weissenhofsiedlung, Stuttgart* (1927)

The effect of this great undertaking is still so new in our minds that it seems impossible that it was complete as much as seven years back. But it was longer than that before its time. Events in Ruislip, Surrey, have made it clear that it will be another seven years before some of us make the one or two adjustments necessary to come into line with this development of 1927.

It was the town of Stuttgart which made possible this first test of the new building on a great scale. In 1926 a decision was made to put among its future undertakings a plan for a new housing development. This was to be a public view of work by the Werkbund which would then be handed over to the town housing organization.

Miës van der Rohe made the plan for it and but for Loos, Häring, Tessenow and Mendelsohn, who were unable to take part in it, he had the help of most of the young representative architects of the day. These architects were: Miës van der Rohe of Berlin (houses marked 1 to 4 on the plan of the Weissenhof); J. J. P. Oud of Rotterdam (houses 5 to 9); Victor Bourgeois of Brussels (house 10); Adolf Schneek of Stuttgart (houses 11 and 12); le Corbusier and Pierre Jeanneret, Geneva and Paris (houses 13, 14 and 15); Walter Gropius of Dessau (houses 16 and 17); Ludwig Hilbersimer of Berlin (house 18); Bruno Taut of Berlin (house 19); Hans Poelzig of Berlin (house 20); Richard Döcker of Stuttgart (houses 21 and 22); Max Taut of Berlin (houses 23 and 24); Adolf Rading of Breslau (house 25); Josef Frank of Vienna (houses 26 and 27); Mart Stam of Rotterdam (houses 28 to 30); Peter Behrens of Berlin (houses 31 and 32); and Hans Scharoun of Breslau (house 33).

The building of the Weissenhof was, in some degree, conditioned by the fact that the workmen had had no experience of the new materials used. It would be possible to make much of this point in an argument against the quality of the work. But, though this might be true and though seventeen architects from five dif-

ferent countries were interested, the outcome is complete harmony. The architects had but one purpose among them, and that was to make a reasoned group of houses for owners with not very great incomes. You may see in the view how beautifully at rest are the long lines of their buildings. There are no pointed roofs or complex details to take away from the balance. Here is order, not competition—not a place made into a no-man's land by self-advertisement.

If one does not make the most of living it may well be because there has been no chance of a discovery of what is possible. The Weissenhof was designed to be an example of what is possible when air, colour, organization of inside space, and simple comfort are all made happy use of.

No approval is warm enough for Miës van der Rohe's able planning, Oud's simple grouping (ex. 61), and le Corbusier and Jeanneret's three houses, vessels half of earth and half of air. These houses have no equal there in their organization of space. The two joined houses are as good an example as there is of the "free plan". Here on the first floor with its line of windows is a long living-room which may be turned, by moving steel doors, into three separate rooms and these may be changed equally smoothly from living-rooms to bedrooms and back again.

The qualities of the Weissenhofsiedlung have been frequently copied, but less frequently outdone. Last year the Kochenhofsiedlung was put up near by. This was in the first place a public view of German woodwork, and after being in the hands of the Werkbund was turned over to Paul Schmitthenner. A postcard printed at the time by supporters of the Kochenhof design gives you a picture of the Weissenhof with streets lined with strange trees and Arabs. Under it is printed "Weissenhofsiedlung als Araberdorf". The idea has its point, but there is no fear of us letting its humour come between us and the true value of the Weissenhof. The Kochenhof, let it be said, is more interested in song-birds and cloud-gardens than the well-being of mind and body.

PROFESSOR EDMUND KÖRNER (Essen-Ruhr)

76. *House of Dr Bergius at Heidelberg* (1927–28)

88. *Camillo-Sitte-Platz 1, Essen* (1930)

Edmund Körner (Görlitz, 1875–) had his training in Dresden and in Berlin under Wallot. He has been working privately in Essen from 1908 and is responsible for the Exchange Building and the Jewish Church in that town and, in addition, a number of houses and buildings for trade. His work is not based simply on the theory of purpose in design, but has the mark of a deep knowledge and wide outlook unlimited by any special theory.

The house of Dr Bergius (ex. 76) is as much an example of his true feeling for the needs and comforts of living as of his controlled use of present-day developments in the science of building. It is in a beautiful part of Heidelberg which was, unhappily, not respected as much as it might have been by the architects of the 80's and 90's. The slope of the land is unequal and the houses near together, giving a feeling of unrest which is increased by the very different forms of great numbers of trees. The two houses—one for two families and the other for one—which were on the position before building, were made part of the new house after undergoing very necessary changes in structure. In comparison with the far from regular forms on all sides of it, this house is massed on simple four-square lines. Placed in a position overlooking the Philosophenweg it has fine views of Old Heidelberg and the River Neckar.

The structure is of hollow brick walls faced with plaster. The floors are in steel-concrete covered with cork and topped with wood-squares or oil-cloth. The roof is in cell-formed concrete. The lowest floor is taken up with a group of offices and organization-rooms on the west side, and the room for meals, music-room and cooking-room on the east side of the hall. A small lift goes up to the other floors. The long meeting-room on the fourth floor is

specially pleasing with its terraces to the north and south and their beautiful views of the river. Other interesting points are the high windows in the room for meals overlooking the garden, the small covered walk with views of the terrace group, the openwork bridge from the house to the garden, and the special playing-terrace for boys and girls. An uncommon but very interesting part of the house is the swimming-bath in the front garden at under-floor level. It has a moving glass roof so that it may be turned into an open-air bath whenever necessary. Because of the slope the garden is planned in terraces parted by waterfalls and stretches of water. A tea- and summer-house has been placed in the south-east angle of the garden.

The view of curved and windowed spaces seen from the foot of the garden steps and framed by low terraces of rough stone and flowering plants and trees is very beautiful. Karl Foerster-Bornim was responsible for the planning of the garden.

The house in Essen (ex. 88) is in a naturally beautiful position in the best part of the town. The design is clean, straightforward and strong, and no detail is forced or unimportant. The walls are of cell-formed concrete, faced with brick for two floors and the top floor plastered and painted. Floors and roof are in steel-concrete. There is a small terrace by the garden whose unbroken space of grass makes a pleasing stage for the house.

RICHARD DÖCKER (Stuttgart)

77. *House M. G., Göppingen* (1928)

Richard Döcker (Württemberg, 1894–) had his education in Stuttgart where he is now working. He was one of the architects of the Weissenhofsiedlung (1927), being responsible for a work-room. His hospital at Waiblingen near Stuttgart (1928), with its long sun-terraces, is an important example of design in this special field.

The house M. G. (ex. 77) is planned for the comforts of living. It is serious and at the same time purposed to give quiet pleasure at

every point. The feeling of attention to good form in the strongly-marked massing is made softer by the delicate shades of the garden and the colours of the flower-boxes on balcony and windows.

The house is faced south on to the garden: the living-rooms, winter garden and bedrooms are grouped on this side, with the cooking-rooms to the north. The structure is of brick coated with a special plaster. The low roof has wide overhanging edges. Between the house and the garden is a long terrace, which gives the building the look of being taller than it is.

ERNST PIETRUSKY (Breslau)

78. *Rest-Houses, Liebau, Silesia (1928)*

Ernst Pietrusky is one of the most important older architects working in South Germany. Heinrich Tessenow said at one time that the strongest German qualities came from its small towns and not from the great centres of trade, and the quiet air of the country and the feeling of the good brown earth are clear to see in Pietrusky's work. The able moulding of the small private house with the clean reasoning of the twentieth century is a sign of his quick and untroubled mind.

In addition to his houses he has been responsible for the miners' housing in Nieder-Hermsdorf, and schools in Reussendorf and Weissstein. These rest-houses (ex. 78) are in the Raaben Mountains, fifteen minutes' journey from Liebau, on which they are dependent for water, gas and electric power. The chief structure of the houses is a wood frame with brick covering faced on the weather sides with cork units and boards. The base is in brick plastered outside. The quietly sloping roof is concreted on top and on the underside, forming an air-pocket, and covered with coloured roofing material. Every house has a wide living-room with sleeping-boxes, two bedrooms, a cooking-room and a bath.

PROFESSOR LUDWIG RUFF (Nuremberg)

79. *House H. Mögeldorf, Nuremberg* (1928)

Professor Ludwig Ruff (Dollnstein, 1878–) was trained as a wood-worker, but after being at the Technische Hochschule at Munich went into building and took up private work as an architect. He has been responsible for a wide range of building—banks, theatres, picture-houses, colleges, churches and houses of every sort. His designs are strong and uncommon, marked by clean reasoning and a clear outlook. His growth as an architect has been more a smooth development than a process of testing first one form and then another. His effect on other architects as an education force has been very great. His most noted work is the Seminary for the Bamberg Archbishopric, started in 1927, a group of buildings designed and massed with authority and weight, cleanly formed and with an effect which is at the same time pleasing to the eye and in harmony with the religion which gives it its purpose. The design is Tuscan in quality, twentieth-century Brunelleschi. There are some good stone-cuttings by Killer and wall-paintings by Faistauer.

In his houses he has given a new twist to old forms. His touch has a clear decision about it which is uncommonly pleasing in its unforced development and expansion of the good qualities tested and judged by the past. House H. Mögeldorf (ex. 79) is a good example of current German work. The structure is of brick with a sharply sloping roof. The walls are plastered a light red, roofing is grey and shutters blue-green. The terrace outside the living-room gives a feeling of space to the building, and in every way it is a house designed with quiet good humour and taste.

BRUNO TAUT (Berlin)

80. *House of the architect, Dahlwitz* (1928)

Bruno Taut (Königsberg, 1880–), was first trained to be a stone-worker and only later took to the art of building. For five years

he was working with that great old man of Germany—Theodor Fischer (1862–), Professor of Building at Munich and Stuttgart. Taut himself is now town architect for Magdeburg, his chief interest being in housing, in its widest sense, for the nation. In this country he is noted for his straightforward book in English on present-day building—*Modern Architecture* (1929).

His house at Dahlwitz (ex. 80) is a good example of his ruling interest in the plan. Its uncommon distribution makes it possible for every room, though part of a small unit, to have a separate outlook over open country. All the bedrooms get the sun for at least part of the day and the balcony outside them is a sort of observation point for the house. A comparison might be made between this plan and ex. 32. A special point is the good system of airing, which is made possible by the placing of the steps and the roof-light over them.

More uncommon even than the planning is the colouring of the house. There are no curtains, no soft floor-coverings, no ornaments. The place of all these has been taken by bright colour put on to such parts as the water-heating system and pipes generally. Different walls have different colours in agreement with their different needs for light. In this way the window-wall of one room is red, the wall facing it where there is a writing table is yellow, and the third wall (the room has only three angles) is blue. The colouring outside is on the same lines. The curved east front facing the road is black, while the two sides looking to the green fields and the west are white.

HANS VOLKART (Stuttgart)

81. *Medical man's house in Welzheim, Württemberg* (1928)

86. *Wood House in Möhringen, Stuttgart* (1929)

Hans Volkart (Stuttgart 1895–) was for a time under Professors Bonatz and Schmitthenner at the Technische Hochschule at Stuttgart, later becoming a teacher at this school under Schmitthenner

and Abel (1919-24). The House for Old Men and Women in Stuttgart-Berg (1926) was designed by him and he has done quite a number of private houses, specially for medical men. It is in this last field of work that he has made his name. His houses are all marked with a feeling for the pleasure of living and with the decision of a clear mind.

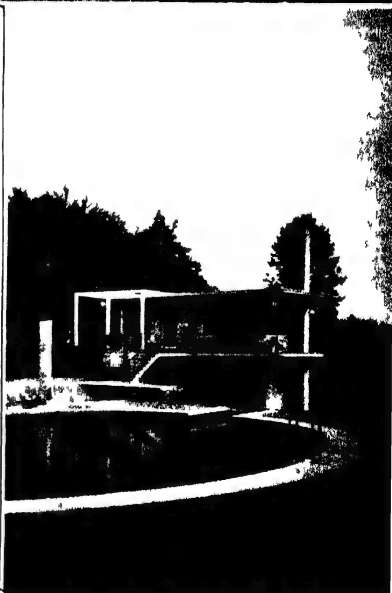
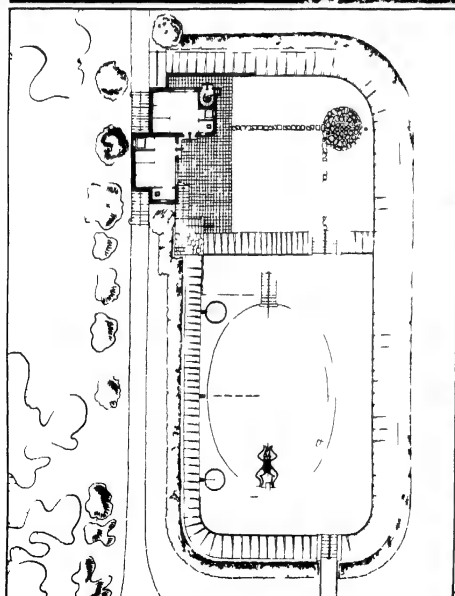
Ex. 81 is designed as a private house for use in business, persons coming for medical attention using the hall as a waiting-room. Because of the sloping position the living-floor is higher than road level to make possible a straight connection with the garden. The automobile-house is placed under the cooking-room at road level. The structure is of solid brick walls plastered white. Windows are painted a delicate grey. Floors are in wood with oil-cloth. The unpleasing look of the sloping ceiling in the top landing is overcome by long windows in the roof-slope with low cupboards under. Woodwork is oak painted white; railings in natural cherrywood. The Wood House in Möhringen (1929) is on the west slope of a fruit garden. The wide living-room and bedroom are faced west, with beautiful views over the wooded country. A roof space 4 feet high has been kept as an air-pocket. The structure is in wood-framing, boarded and painted smoke-brown. The flat roof is covered with tin. Here, as again in ex. 117, the special "simple-intime" of the wood house comes out strongly.

PROFESSOR PETER BEHRENS (Berlin)

82. *Country House, Berlin-Schlachtensee* (1929)

96. *House in the Taunus Mountains, Frankfurt-am-Main* (1931)

Peter Behrens (Hamburg, 1868-) had no regular training as an architect. After an education chiefly in art in Karlsruhe, Düsseldorf and Munich, he took an office in the last of these towns and did work as a painter and designer till 1899. In that year he went



Example 87

*Fritz Hitzbleck (Dusseldorf).
Summer House near Dusseldorf (1930).
Steps to the balcony and a view across
the swimming bath.*

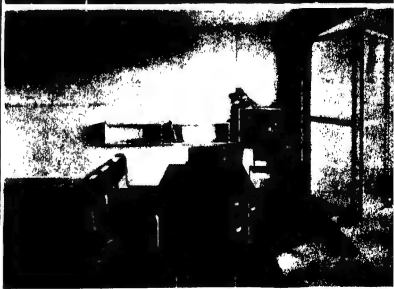
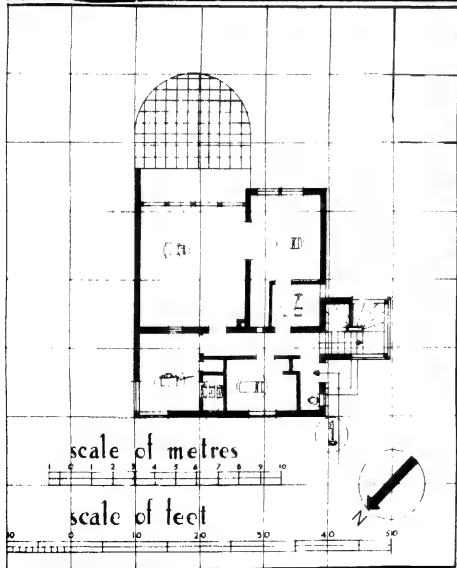


to Darmstadt on the suggestion of the Grand-Duke Ernst Ludwig of Hesse, and here put up for himself an "old" and very German house, a house designed more by the painter he had been than the architect he was to become. In the organization and distribution of inside space, however, it is a great step forward from the normal planning of the time. From 1903 till 1907 he was head of the Düsseldorf School of Art, and in 1907 became architect for the A. E. G. (German Electric Co.). This was a great chance for any architect and Behrens made the most of it. In all his works there is no better building than his A. E. G. Turbinenfabrik, an example of his power and organization in building for industry. This power was to be seen to an increasing degree in much of his later work in this field. His Control Building for the Mannesmann Tube Works in Düsseldorf (1911) is a good example of the complete office group. An equally important event in a different field of design is his mass-made furniture for workmen's houses at the Berlin Gewerkschaftshaus (1912). His housing development at Lichtenberg (1915), though still not complete, is in a number of ways the normal example of planning in this field, and in the Henningsdorf Siedlung (1917) the reasoned housing of workmen is taken still nearer to the desired level of quality. In 1918, after the end of the war, he gave his attention again to the question of the mass-made house, and in the Siedlung at Forst in the Lausitz made a third attempt at the housing of workmen, this time by planning it as if for countrymen with market-gardens, fields and farming apparatus and an organization for the marketing of produce. Another design on somewhat the same lines was in Silesia in 1920. Here the houses were ranged in lines of buildings two floors high, with four flats to the unit and a separate garden for every family. After another interesting example in the same field he did a group of flats in the Weissenhofsiedlung (1927), the only work in the Stuttgart Exhibition by an architect of the older school. Behrens has had a great effect on the mass of European building, and among those who have gone through his office are Gropius, Adolf Fischer, Mendelsohn and Corbusier. No list of his more important work

is complete without the two private houses at Berlin-Schlachtensee and in the Taunus Mountains.

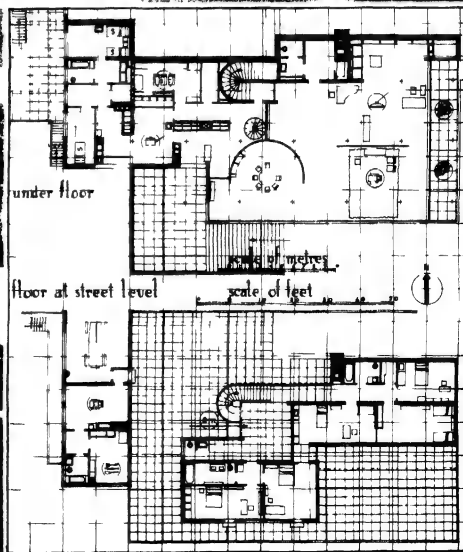
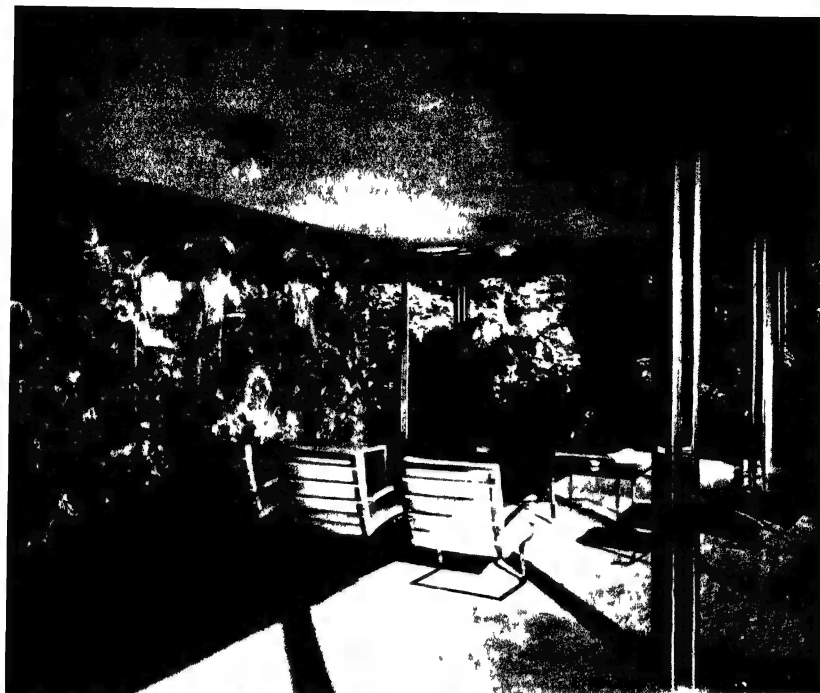
The Country House at Schlachtensee (ex. 82) is as good an argument as there is for the concrete house. One point about buildings in this material or plaster is the surprisingly beautiful way in which they give full value to the forms of trees, branches and leaves whose dark masses are delicately outlined against their unbroken, light-coloured walls. This example is a flat-roofed structure designed for a noted man of science, so there is much about it which is not commonly to be seen in private houses. The windowing is in upright units and not, as in most of the houses in this book, in long bands underlining a flat design. There is a wide garden at the back, and so only a part of the roof has been used as a covered terrace. The walls are faced with white plaster.

Ex. 96 is on a slope of the wooded Taunus Mountains, and has wide upland views to the south. Structure is of brick faced with white limestone. It is planned in two wings, two floors high, with a lower-level group of cooking-rooms and servants' bedrooms as connection between them. The chief wing is taken up with the living-rooms and owner's private rooms and the other with the automobile-house and chauffeur's room over. The design is banded together with balconies at first-floor level. A blue-shaded rough limestone was used for the terrace-walls. The garden and private woodlands were designed by the architect and Camillo Schneider. The metal frames of the windows are painted the same colour as the walls. Money, it seems, was of small account in designing the inside of this beautiful house. If anything the architect was given overfree a hand in this connection, and certain of the rooms are surprisingly overweighted for so clean and strong a house. The walls of the living-room, for example, are covered with "parchment", a smooth writing-skin, cut into squares and pasted on to the plaster, and the flooring is done in black oak with thin lines of a different wood. The heating of this room is by warm air from the tops of metal columns in the window divisions. The walls and ceiling of the room for meals are done in polished woods, the floor



Example 89

*Emanuel Margold (Berlin).
House Bendix, Gross-Glienicker See, Berlin (1930).
The north-west and the south-east fronts, and the*



ample 90

*Ludwig Miës van der Rohe (Berlin).
House Tugendhat, Brünn, Czecho-Slovakia (1930).
The living space and the north and south fronts.*

being in red-brown wood with a narrow lining of redwood. The chief indoor steps have a railing of German silver with a handrail in a bone material.

In the words of P. Morton Shand, the authority on Behrens' work: "At a first look the Landhaus at Cronberg may seem only another example of the 'Purposed' house which is now being put up all over the earth. A second look makes one see how different it is. This is certainly the sort of thing—in that it is a statement of the same, very limited, building qualities—which all Twentieth-Century architects are attempting. In addition it is what they have at no time been able to do. Here, in the newest building of the oldest and greatest living architect of the new school, the father of all the others—a man nearer seventy than sixty—the Twentieth-Century House is at last completely in being."¹ I am not certain that Mr Shand is not right on this point, though what he says about the rest of us may be a little—a very little—off the rails here and there.

THE BROTHERS LUCKHARDT & ALFONS ANKER (Berlin)

83. *House at Rupenhorn, Berlin* (1929)

The brothers Luckhardt may be numbered among the most forward-looking of German architects at the present day. One of them was for some time with Erich Mendelsohn, whose effect may be clearly seen in their office buildings. Alfons Anker (1872–) has been working with them from 1923. These three architects are noted not only for the wide range of their work, specially in housing, but equally for their work in the science and organization of new building developments. They have been responsible for the Telshow House in Berlin, offices in the Tauentzienstrasse, the Königin Bar in the Kurfürstendamm, housing at Rupenhorn, Schorlemer Allee and a number of representative works for public view. The House at Rupenhorn (ex. 83) is in the country north-

west of Berlin on a sloping position falling to the west. This slope and the wide view over the country and the stretches of water have been turned to good account in the design. The long living-room taking up most of the lowest floor is open to a deep terrace and has its west wall completely of glass. The front door of the house and the cooking-rooms are half under the level of the slope. The bedrooms are on the first floor. There is a sun-terrace on the roof and a curved terrace over the automobile-house. The complete house is clearly a machine for living in, but is clean-cut, good-looking, and has a happy air and a suggestion of quick reasoning about it which is certainly pleasing.

ERICH MENDELSON (Berlin)

84. *House Mendelsohn, Rupenhorn, Berlin (1929)*

Erich Mendelsohn (1887-), whose birthplace was in Allenstein, had his early training in Berlin and with Theodor Fischer in Munich. It was at the front in the first years of the war that those first ten-thousand horse-power ideas of building took a grip of him—great machine stores, chemical works, and stations with walls of glass and mountains of concrete. He put his ideas into rough, violent pencil pictures, and in the winter of 1915-16 he came into touch, at the Berlin Library, with the work of Frank Lloyd Wright, Otto Wagner, Van de Velde and Olbrich, and was fired by their feeling for structure, because it was engineering which was most in his mind—the flight of steel in Cottancin's *Galerie des Machines* (1889) and Behrens's *Machine Hall* (1913). While in the army he was getting his thoughts on building into order. These writings, however, though based on good reasoning, are clothed in such a mass of feeling and high-sounding words, like Gropius's "einheitlichen geistigen Weltbildes", that it is not surprising that his *Dynamics and Function*, as he says, "got the younger architects and the judges of art so mixed up". His first important work after the war, the noted Einstein Observation

Building which was put up near Berlin in 1920, though an able bit of science is an example of picture building, an invention, not a necessary form. No doubt Erich Mendelsohn was conscious of this himself because the building after this, his great hat works at Luckenwalde in steel and concrete, is a straightforward and simple statement in building for given conditions. A comparison is possible between its machine-works and the Galerie des Machines which had had such an effect on him. This work gave him a name for the housing of machine plants and for planning on an important scale. After 1923 his development was sudden and the massed weight of the *Berliner Tageblatt* building gave way to the simple curves of the Universum Cinema (1926), which in its turn gave way to the smooth strong qualities of the Metal Workers' Building (1929) and the solid but delicate harmony of the Columbushaus (1931). So with his houses. The two houses at Charlottenburg-Westend (1922) have a look of great weight about them with their rough brickwork darkly coloured and dressed with oil, and the furniture inside them is equally serious and hard. In the brick house of Dr Sternefeld, Berlin (1923), there is a tendency in the same direction, but here the steps, sidewalk and walled garden make such a pleasing design that the weight seems much less and the great mass of brickwork is broken and seemingly supported by the long windows.

But without a doubt his best house is the one which he put up for himself near Berlin, on the edge of the Grönewald and high over the Stössensee and the Havel, the waterway between Berlin and Hamburg. At the back of the high stone wall a long footway takes one up to a very simple door in an almost solid wall. On the opposite side of the hall and the room for meals and the music-room nothing comes between the wide view but plate-glass windows which may be let down into the wall by electric power. Inside is harmony. The furniture is designed by the architect—all cupboards are parts of the structure itself—no furniture is higher than a table so that walls are free and levels unbroken. For ornament there are one or two works by Ozenfant and Archipenko. For use

there is glass by St. Lambert and silver by Lettré. For comfort there is the oil-heating plant, an automatic servant which will not let you down.

The Rupenhorn house, in plan and general design, is as good an example as there is of what Mendelsohn himself says in connection with the small house generally. "Architects do not keep clear in their minds the fact that the small private house is only a very small building unit, and that in view of this the use of details of design (a plan whose spacing takes up much room and money, an unnecessarily broken roof-line, loose stitch designs) had best be limited with a strong hand. Again, ways and materials of building which are all right for great halls and public buildings are out of scale in small buildings. *A private house is not a public view of tricks in design and structure.* The overfree use of glass may become an automatic reaction on the part of the designer. Glass when used without thought for its position or quality is no better than a support supporting nothing. At the same time it may take away all feeling of being private. A private house is not a *place publique*."¹ Who is now the happy owner of this house it would be interesting to see, but Erich Mendelsohn is here in England working with Serge Chermayeff and far from the country of his birth. His work will have its effect on the younger architects here as it has done in the past in other parts of Europe, because art is not limited by blood or religion. Among the architects who have been at work with him in Berlin and on whose outlook he has had a great effect are Arthur Korn, Wassily Luckhardt and Richard Neutra.

LUDWIG MIËS VAN DER ROHE (Berlin)

85. *Garden House, Barcelona Exposition* (1929)

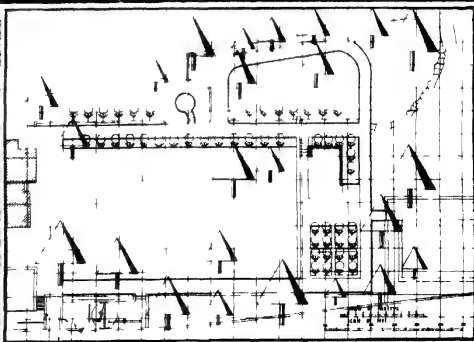
90. *House Tugendhat, Brünn, Czechoslovakia* (1930)

Miës van der Rohe (1886–) is an architect who says little about himself and has put up only a small number of houses. But such is the surprising quality of what he has done that his name is second to nobody's in present-day building.



Example 91

Bernhard Pfau (Düsseldorf).
House L, Düsseldorf (1930).
The play room and two
views of the steps.



uple 92

*Otto Valentien (Stuttgart).
Garden of a house in Stuttgart (1930).
Garden view from the south and detail*

His birthplace was at Aix-la-Chapelle. His father was a stone-worker and all his early experience was in the first-hand use of materials. He went to Berlin before he was twenty and for two years (1905-7) made designs for furniture in the office of Bruno Paul, an architect of uncommonly good taste, from whom, as from his father, he got some of his love of the natural qualities of the materials he was to make such good use of. But if we make any comparison between the marble-floored country-house at Soest (1928) by Bruno Paul and the Garden House at Barcelona (1929) by Miës it will be seen how much greater was the younger of the two. From Paul's office Miës went to the office of Peter Behrens, where Walter Gropius was then at work. His effect on Miës, as upon most other young architects, was most healthy. The quality of this effect may be judged from exx. 82 and 96.

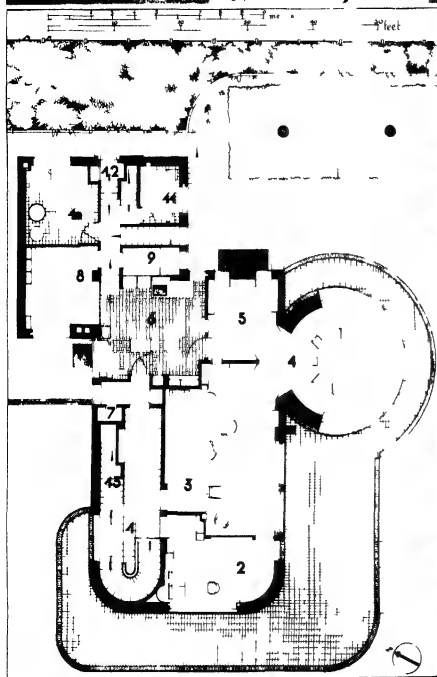
From 1914 to 1918 Miës was in the army in the Balkans, and may in those wasted years have been planning those all-glass buildings of his which are like structures of light and air. When in 1927 the Deutscher Werkbund was given the designing of the Weissenhofsiedlung (ex. 75), Miës was put in control and was responsible for the selection of the architects who were to do the work with him. It says much for his qualities as an architect and a man that he was able to get through this great undertaking with so much credit and so little trouble.

A living house, not a fixed house, is his idea. Miës said only a word or two about it in the book *Bau und Wohnung* produced by the Werkbund as a record. These words were: "The need for reasoned order and mass-made materials on the one hand and on the other the desire to be free to make changes will only come into line through the use of frame-building. Cooking-room and bathroom have to be fixed, but for the other parts of the house the only thing necessary is moving screens." In his design for a brick country-house (1922) he first made use of the free plan, in the later development of which he went far in front of anything so far attempted by Wright in America. In his Garden House (ex. 85) at the Barcelona Exposition he put the idea into full

effect. The limiting and seeming expansion of space in building are facts to be taken into account not only physically but in theory. The architects of the old days took great pleasure in the designing of buildings on an important scale with solid columns and rooms as high as houses. The discovery of the science of the right relation of size and distance made it possible for painters to make the walls of houses and churches seem as long again by painting on them pictures seen as in a glass. But this sort of building has given way to the straightforward use of space and the free balancing of the parts—design not with outside walls but with inside space. To Miës van der Rohe, to-day's Brunelleschi, goes the credit of giving new building-forms the true qualities of great design. His houses are examples of a simple, delicate and certain feeling for form and material, of a clear knowledge of space relations.

At Stuttgart in the Plate-Glass Exposition he gave an example of the value of black glass in making space and giving a feeling of greater space. At Barcelona the black glass wall of the terrace darkly gives back the moving leaves of the garden. This Garden House was clean and open—unlike the other buildings of the Exposition. Its rooms and walled square had nobody living in them. To see it was like coming face to face with someone strange and beautiful. This building, with its glass and water, its bright columns and its quiet girl in stone, was a place for the mind's play more than for the business of living.

The Tugendhat House at Brünn (ex. 90), which was put up in 1930, is to me the best of the new houses in Europe. It is a house for a family whom it certainly seems good to be a friend of. The living-floor is almost completely one open space with screens of different materials—brown wood and polished limestone—making the divisions for the different purposes of meals, work and rest. Two of the walls of this room are clear plate-glass giving views over a sloping garden. These glass walls may be moved up or down, while at night they are covered with silk curtains. The steel columns of the structure come at regular distances free of the walls and are chromium-faced. The floor has oil-cloth over it and



Example 93

*Otto Zollinger (Saarbrücken).
House Streiff, Lake Zurich (1930-31).
View from the south-west and details
of the room for meals and of a work
room.*



mple 94

*Otto Zollinger (Saarbrücken).
House Streiff, Lake Zürich (1930-31).
The cooking room and the bathroom.*

thick wool coverings on top. There are no doors or windows of the normal sort. The house is an organization of spaces having a natural relation and connection with one another. Only the glass walls come between the trees and the room. It is the sort of house for a man with a love of light and air and clean living. It is to be regretted that this great architect has not had a chance to give us more examples of his work. After 1926 he became interested in the making of steel furniture and his beautiful chairs are almost the only side of his work which most of us have seen. In 1930 he became head of the great school of building at Dessau but this is now a training-place for Nazis.

FRITZ HITZBLECK (Düsseldorf)

87. *Summer House near Düsseldorf* (1930)

This building (ex. 87) is a first-rate example of a quiet summer place for swimming and outdoor amusements. It is in the middle of private property, among trees, gardens and stretches of grass, not far from Düsseldorf, where the weather conditions are very like those in the south of England. The Summer House is at one end of the swimming-bath with a tea-room on the first floor and under this six changing-rooms. The high smoke outlet is from the heating apparatus, by which the house and the bath are heated in cold weather. Of the three square stone columns at the side of the bath the middle one is for lighting and the others give an overhead waterfall for the swimmers. The structure is in brick and concrete with metal-framed windows. It has our undoubted approval, equally for its simple and delicate form and for its suggestion of clean and happy living. From the picture of the garden-walk and steps it will be seen that this is a design full of quiet and moving harmony.

EMANUEL MARGOLD (Berlin)

89. *House Bendix, Gross-Glienicker See, Berlin (1930)*

Emanuel Margold has done work in different parts of Germany, but chiefly in Berlin, where he was architect of the Roland-Grossgarage with chauffeurs' houses, offices and workrooms all complete. He was responsible in addition for the Bieberbau-Cinema in Frankfurt a.M. All his work is marked by decision and purposed in every detail. He is a planner on a great scale and his masses are all grouped with balance and authority, but probably for this reason are more interesting outside than in. The straightforward, unquestioned control of structure is natural in an architect of Margold's force of mind and for the operation of solid masses, but for the other and equally important side of design—the inside—a more delicate touch is necessary, and this he has not so far made an attempt to get. In his desire to have no effects which are beautiful only in a small way he has been unnecessarily strong and rough in details where this is out of place.

House Bendix (ex. 89) is a wood structure by the side of the Gross-Glienicker See. It is a week-end house but designed for living in at any time of the year, winter or summer. The base is concrete and special attention has been given to airing and heating. There is a smooth distribution of warm air from the hall. The design is simple, the windows being placed almost completely at front and back overlooking the stretch of water. The structure of the chief steps is glassed from garden-level to roof. Between the wide living-room and the owner's bedroom are moving doors, and between living-room and garden a moving glass screen as long as the end wall. The terrace is given cover from the wind by a small screen wall. The top floor has four small bedrooms with a long sun-terrace off the top landing. The complete work was done in the surprisingly short time of eight weeks.

BERNHARD PFAU (Düsseldorf)

91. *House L, Düsseldorf* (1930)

99. *House W.K., in Viersen, Rhineland* (1932)

Well-designed houses frequently have a suggestion of being the work of an architect acting on a natural impulse quite free from the general conditions of his business. This effect, however, is in almost every example the outcome of hardworking attention to those same conditions, a sign that all troubles have been overcome and a full answer given to the question in hand. The architect is conscious of the complex forces he is up against in attempting to do anything new. It is, after all, the man who makes the payments who has the last word, and the owner of the future house does not commonly take much pleasure in meeting an account increased by the high prices of new materials and the expert work necessary for their use. This is the greatest condition facing the twentieth-century architect. What is needed most of all in every country is a number of lovers of art with fat bank accounts, open hearts and the good sense to give the architect a free hand. Without these the architect is able to make only a limited use of the new discoveries which science has given to the art of building.

Bernhard Pfau was given the new designing of a thirty-year-old house in Düsseldorf (ex. 91). It was narrowly spaced, badly planned and poorly lighted and there were no bathrooms. A start was made by pulling down the old floor-to-floor steps and putting in their place a steel-concrete connection, the space opened out in this way being used for the addition of two bathrooms to the higher floors, lighted and aired from the top. The cooking-room was increased in size and given the newest apparatus. The winter garden was roofed with strong glass forming a wide terrace for the bedroom and morning-room over it. On the lowest floor the living-room, room for meals, winter-garden and garden-terrace were grouped in one line with connection by moving doors. In the

second designing of this house the new theories of purpose took little part.

The outside was done as simply as possible and plastered in two shades of colour, the garden front being uncommonly good in its effect. Inside design and furniture are specially pleasing in quality, colour and feeling. The winter garden is full of happy touches, the different plant forms, silver of water, clear glass and polished metal all helping the play of light and giving an air of pleasure. The architect gives the credit for the complete house to the owner's true knowledge of art and feeling for form.

In the house W.K. (ex. 99) Pfau has again gone straight to the point with no feeling about for the right thing. The house has trees and wide grasslands to the south-east and it was in addition placed on a quiet road, so there seemed no need for a front garden. The building itself is equally quiet and with the different qualities of its brick and plaster facings has a self-respecting air of attraction about it which is certainly pleasing. The living-rooms on the lowest floor are grouped on the south-west and north-west and are joined to the garden by a wide terrace. The garden sides of these rooms are glassed in moving steel-framed divisions quite as high and wide as the rooms themselves, which may be covered by steel shutters worked electrically. The cooking-rooms are placed on the north-east with the washing-place and so on at under-street level. The bedrooms on the first floor are in three groups with the owner's and servants' rooms on the two sides and the rooms for the owner's family in the middle. Most of the bedrooms have views over the country to the south-east with sunlight all the year round. The plan is well-reasoned in its distribution. The garden is beautifully designed with wide spaces of smooth grass screened on all sides by trees and plants. The house and garden are in happy relation with one another and all parts in quiet harmony.

OTTO VALENTIEN (Stuttgart)

92. *Garden of a house in Stuttgart* (1930)

Otto Valentien is a garden architect working in Stuttgart where he has been responsible for a number of new gardens which are among the attractions of that town. Developments in garden design have not kept up with building. There are only one or two examples such as Guevrekian's garden at Hyères, which have any new feeling in them. For the rest we have the common flower-beds with ornamented edges, the walks which seem to have been produced by geometry, the strange archways and stranger structures of all sorts which are there only to make the "garden-beautiful" safe for Art. Valentien's gardens are very different. The natural growth of trees and flowers is ordered kindly. There are clear spaces with stretches of grass and good straight walks, and garden buildings are placed with an eye to the views and are as open as possible in structure, with screens of glass against the wind. These little buildings are not outsized garden ornaments—they are for living out-of-doors, meals in the open air, work in the sun. The garden architect is so frequently a person who makes designs for complex flower-beds that it is a pleasure to come upon the work of Valentien.

OTTO ZOLLINGER (Saarbrücken)

93, 94. *House Streiff, Lake Zürich* (1930–31)

95. *House Riggensbach, Höngg, Zürich* (1931)

Otto Zollinger (1886–) is an architect of international note in connection with sport and amusement buildings—his restaurant Dancing al Lido among the mountains of Ascona, the happily designed restaurant Monopol at Saarbrücken, and, best of all, the Strandbad Vevey on the Lake of Geneva, a group of concrete buildings specially well massed on the waterfront, with a much copied concrete bathing-stage. These happy buildings are probably

the best example of an architect-designed sports' place in Europe.

The House Streiff (exx. 93, 94) is placed high above the Lake of Zürich, resting on the slope. Its plan is full of ideas. The round room for meals has an unbroken curved window which, when wide open, gives a full view of the garden. There is a steel-concrete balcony over this room. The workroom has an angle window with painted inside shutters completely covering it at night. In the cooking-room the electric cooker is in the middle of the room with free space round it. The servants' living-room is at a higher level overlooking it through a glass screen.

The house is of concrete and brick structure with a steel-framed roof boarded and covered with copper. The walls are plastered with a bagged effect and painted in two colours, half the house white, half black. The base of the house is faced with hard bright brick. The rooms on the plan are numbered in this way: 1, hall; 2, small living-room; 3, chief living-room; 4, room for meals; 5, workroom; 6, cooking-room; 7, cold-store; 8, servants' living-room; 10, washing-up room; 11, servants' bathroom.

The House Riggerbach (ex. 95), which is a concrete structure with flat metal-covered roof, has an uncommonly pleasing living-room at two levels, the higher of which is for meals and cut off from the rest of the room by long low book-shelves. The ornament is almost completely in the colouring of the walls, which are painted in wide masses of different shades. In the lower part of the room there is a large wall-painting picturing the pleasures of gardening.

OTTO EBERT (Nuremberg)

97. *Country House in Franken, near Nuremberg* (1931)

This house in Franken (ex. 97) is placed on a slope near the Ludwig Donau-Main Kanal in a sporting part of the country. It is in brick, lime plastered with stone dressings and a natural wood balcony plastered on the underside. There are terraces on three sides of it on strong supporting walls of limestone, the long lines

of which are pleasing opposites to the uprights of the trees. The garden is stepped down to a swimming-bath and summer-house. On the lowest floor are the owner's rooms and the hall, cooking-rooms and stores at under-terrace level, and bedrooms on the top floors. The house is steam-heated. It is equally in harmony with the rough mountains and straight trees over and round it, and the softer country in the hollows. It has all the feeling of the old German country building with, at the same time, that clean, outdoor quality of the best country building in the new Germany.

PROFESSOR ADOLF RADING (Berlin)

98. *House Dr R., Zwenkau, Leipzig* (1931)

Adolf Rading (Berlin, 1888-) had three years' first-hand experience in building before being trained as an architect at the Technische Lehranstalt für Hoch- und Tiefbau in Berlin. He was with a number of architects up to the war, and then put in four wasted years at the front. In 1919 he was offered a position with the Staatl. Kunstakademie in Breslau through Professor Endell, and four years later was made Professor of the Art of Building. He gave up this position in 1933, and is now working outside the country of his birth.

Adolf Rading was responsible for groups of flats in Breslau and Berlin, the Oddfellows' Lodge and Mohren-Apotheke in Breslau, a small railway station at Oberlausitz, houses in Breslau and Berlin and the House Dr R. in Zwenkau. In addition he was one of the architects interested in the Weissenhofsiedlung and the Wohnung u. Werkraum Ausstellung in Breslau in 1929, and is the writer of a number of works on town-planning.

House Dr R. (ex. 98) is a private and business house for a medical man. It is a white-plastered square house, three floors high; business-rooms on the lowest floor, living-rooms on the first and bedrooms on the top. The distribution of space is good. The hall is walled with glass, giving views of the garden at the two ends,

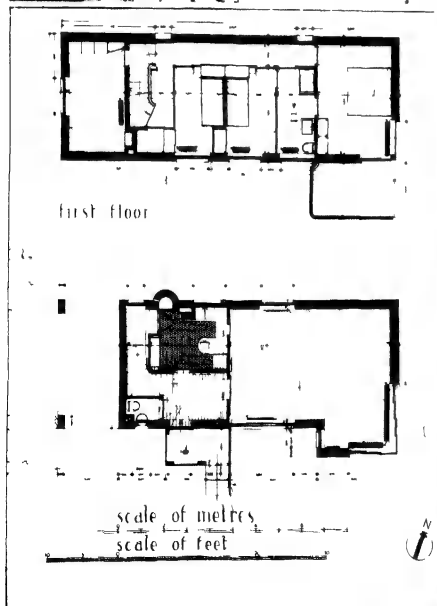
and in part taken two floors high. There are outside steps between the hall and garden. The garden front is, in comparison with the quiet road front, bright and open and full of light. The delicate effects of inside and outside design are chiefly the outcome of colour on the building-forms, massed with interesting outline. The lighting details are uncommon and beautiful—tube lights and ornament (of metal bands and wires, machine-like in feeling) by Oskar Schlemmer.

PROFESSOR HANS SCHAROUN (Berlin)

100. *Country House Schminke, Löbau, Saxony* (1932–33)

Professor Hans Scharoun (Bremen, 1893–) had his education in Berlin and became Professor at the Kunstakademie in Breslau. His offices are in Berlin and his name has a special connection with the designing of private houses. He was one of the architects responsible for the Weissenhofsiedlung in 1927. It is hard to make a selection of houses truly representative of everything which is best in twentieth-century building, but there is no doubt that examples of Scharoun's work would be among them. His houses are statements of Man's desire for true pleasure and his conscious need for form as the frame of his free existence. His work has the feeling of being the natural impulse of a happy mind working freely in the limits of a wise art.

Country House Schminke (ex. 100) is on the outskirts of a small town, in a position uncommon in houses of this sort, having a work-building to the south of it. The plan and outlook, specially in windowing, have naturally been conditioned by this fact. The plan is a smoothly working organization for ordered living. Hall, playroom, room for meals and living, and music-room are all grouped together with curtains and moving screens between them. The views over the gardens to the north have been turned to good use, and the outlook from the room for meals and the far end of the living-room over the low garden and the walled-in curve of



Example 95

*Otto Zollinger (Saarbrücken).
House Riggbach, Hogg, Zurich (1931).
View from the south-east, the living room
and the cooking room.*

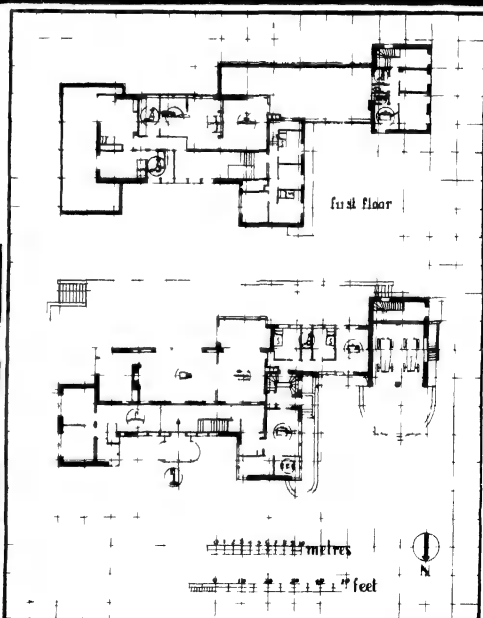


plate 96

*Professor Peter Behrens (Berlin).
House in the Taunus Mountains, Frankfurt-am-
Main (1931).
Two views of the south front.*

water is beautiful enough for anyone. The glass-house is on the south side, sloping forward from the wall to make the most of the sun. The hall is two floors high, lighted by a tall window on the north side. The planning of the first floor is equally uncommon. The bedrooms are all faced south, with a long hallway on the north side opening on to a terrace on the north-east. The strong lines of the flat roof are surprisingly balanced by the angle of the terrace, a change of direction which not only gives rhythm to the house but puts it into a living relation with the garden and the curve of water. The design has the smooth quality of a machine without in any way being like one, is solid and at the same time delicate, moving and at rest—a harmony of opposites. Its early-morning feeling and almost electric air of being awake to the sharp pleasure of living, are qualities not to be seen in buildings of any time but the present.

The window-spacing is interesting and a sign of the reasoned order inside; long narrow windows placed near the ceiling of the hallways, wide spaces of glass in the living-room and chief hall, for open lighting to all parts of the house. The furniture is simple and designed for a degree of comfort which puts comfort almost on the level of an art. The structure is steel-framed, faced with cell-form concrete and plastered white. There is little need to say more. House Schminke is one of the best examples of the twentieth-century house to be seen anywhere.

ANGUELOS SCHAGAS (Athens)

101. *The architect's house, Athens* (1930)

102. *House Paparangelos, Athens* (1931)

The example of the Acropolis and the great days of Greece have not so far had much effect upon present building in that beautiful country. Athens has no order or form, and most of the other towns are in the same condition. In the last year or two the German architect, R. Coste, as head of the *École Professionnelle*,

Lixouri, has put some new ideas into the younger men, though the work which he does himself is of the simple Mediterranean sort. Among the young men doing good work are Stamo Papadaki, P. Karantinos, S. Diamantopoulos, Nicholas Metsakhes, Alexandre Dragoumis and Angelos Schagas. Examples of work by the last two are given in this book.

The house of Angelos Schagas is a pleasing building in the materials of the country, normal in effect and well-reasoned in plan. The House Paparanguelos is a step forward, more interesting in its planning (on two floors over a public automobile station put up some years before) and, on the street front, simple and well-massed without any forcing of effect.

ALEXANDRE DRAGOUMIS (Athens)

103. 3 *Place du Lycabette*, Athens (1931)

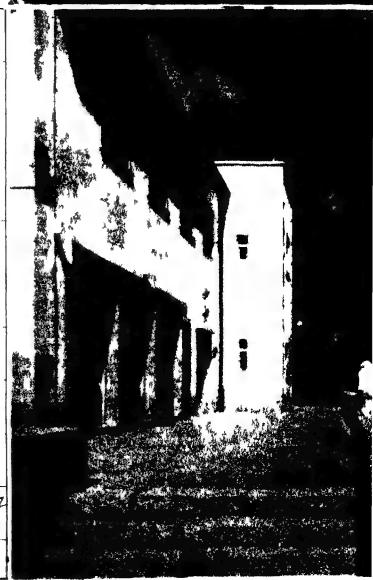
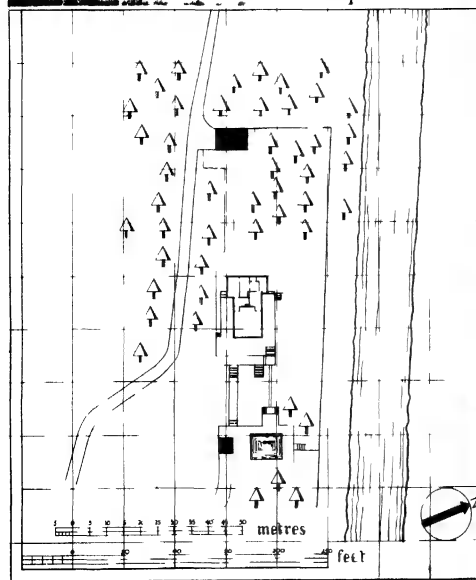
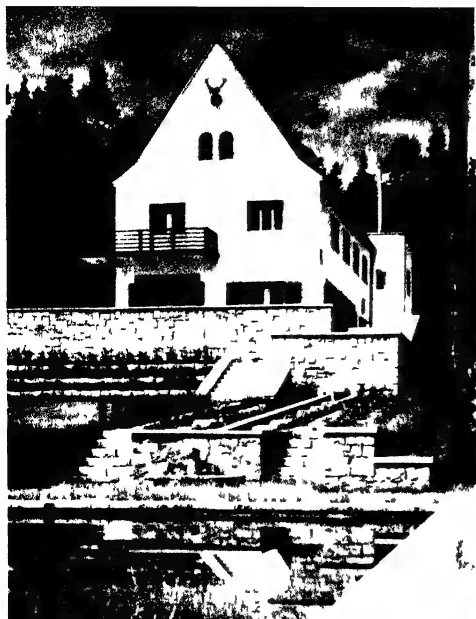
This house is at the foot of Mount Lycabette, with a surprising view of the Acropolis from its roof-garden. It is four floors high, on a very limited bit of land, with terrace balconies at every level. The structure is steel-concrete frame with brick curtain-walls faced inside with grass-board. There is the normal water system of heating and a concrete store for water for all house purposes under street level. The organization of the street floor plan is good but for the fact that the chief steps go up from the living-room. The room for meals is of uncommon size. Side-moving doors are used throughout.

LUDWIG KOZMA (Budapest)

104, 105. *House in the Rosenhügel*, Budapest (1931–32)

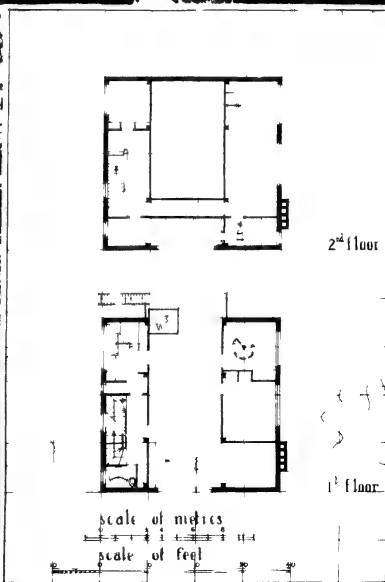
109. *House Forgács*, Rosenhügel, Budapest (1932–33)

The birthplace of Ludwig Kozma (1884–) was in Kiskopád, Hungary, and his training in Budapest at the Technische Hochschule and the Kunstakademie.



Example 97

*Otto Ebert (Nuremberg).
Country house in Franken, near Nuremberg (1931).
View from the east, the south-east and the north-east
fronts.*



In addition to being an architect and responsible for offices, restaurants, flats and houses, he is an expert with the pencil and did the pictures for a number of books on Hungarian country songs. Those who may still have in mind his much ornamented Bohemian rooms of 1928-29 will be surprised by the simple houses which he has been designing in the last two or three years. Because it is now so necessary to keep an eye on one's pocket, his interest in uncommon materials has had to give place to an interest in concrete, glass and layer-wood, and, being a true architect, he has taken to these narrow conditions so readily and so certainly that his work in them is without doubt among the best.

The sort of complex ornamenting to which other architects in that part of Europe were, five or six years back, giving their fertile attention—Emil Fahrenkamp, Paul László, Fritz Gross, Professor Josef Hoffmann—has gone under in the great sea of building units, lighting units, furniture units, and units of every sort. It is certain that the simple, and now frequently beautiful, forms of these units have come about, in a great measure, through those attempts at a present-day “baroque” which were so common at that time. We might, no doubt, say that this simple quality which gives so much pleasure is there because of a general law of adjustment to purpose or “being right for what it is for” (that great advertisement idea), but this would not give the full reason for the living growth of the design.

Here are two houses by Ludwig Kozma: House in the Rosenhügel (exx. 104, 105), and House Forgács (ex. 109), which have the good qualities of mass-made materials and of beautiful and happy design. It is certain that to Kozma his work is his pleasure. The House in the Rosenhügel is on the flat top of a slope in the better part of Budapest, among other houses and gardens with views over the old part of Ofen and the Schwabenberg. The house is right for the Hungarian weather with its quiet fall and not over-cold winter.

Every detail in this house has been done with a care which is not common in English houses of this size. Every part has been

ordered with thought and decision. Kozma made all the designs for the furniture himself and, though this may give the owner no chance to make a record of the development of his taste in pictures and furniture, there is no doubt about the pleasure to be had in the harmony of a complete house; that harmony which has been the hope of architects for so long. You may say that it will not be the thing to have houses completely designed by the architect very much longer. Ideas of comfort will certainly keep changing but good design is for all time.

The House Forgács was put up in 1932-33 and its price was £1300; 40,000 ft.³ at 8d. a ft.³, an uncommonly good attempt at small house designing. It has no tricks, no forced and unnecessary details, and for that reason is completely happy in its effect. Had it been designed for Berkshire, Sussex, or Surrey no picture of it would ever get into the Academy because it has no important front door, no roof, no green shutters. It has only that simple self-respect, to be noted in the smaller Georgian and Regency houses, which to most of us is not enough. We are coming to be less uncertain, now that we have seen how much the great public has been getting for its money in pointed roofs, curved-out windows, details of structure which seem to have a military purpose or a feeling for religion, and other such foolish waste of good materials. Please give your attention to one special detail of this house. You may get some idea of an architect's thoughts, or his system of thought, from a number of the details of his buildings, but in my opinion you may do so best of all from his ironwork. Those railings give me an undoubted belief in Ludwig Kozma, and this belief is further supported by his planning.

The House Forgács is designed on the same lines as the House in the Rosenhügel. It is specially happy in its outlook. The great open stage in front of the chief bedroom is faced south, as is the long railed walk to the living-room. The outdoor living-place is on the east side. Framed in the long window of the living-room may be seen the Schwabenberg, a view which becomes an increasing pleasure to those whose living-place this is.

Let it be pointed out that Ludwig Kozma is one of those happy architects whose work is not conditioned by theories. He himself says that his houses are examples of "Bauen, nicht Architektur". In the design he is interested in quiet forms, with the agreement of clear spaces and private details; in the planning his chief thought is to get the rooms grouped in a natural order. The architect has before him a great range of machine-made materials. Out of these he may, if he will, make order, rhythm, and a way to a brighter sort of living—houses, in fact, like the House in the Rosenhügel and House Forgács.

MARCEL BREUER (Budapest)

106. *House Harnischmacher, Wiesbaden (1932)*

Marcel Breuer (Pécs, Hungary, 1902–) was trained at the Bauhaus in Weimar and Dessau and has been working privately in Berlin. He was one of the first designers of steel furniture, which, taking into account the fact that he is still only a young man of thirty-two, says much for his quick development and ready decision. The House Harnischmacher (ex. 106) is placed on a slope overlooking the Rhine and the broken country round the town. The frame structure is walled with cell-form concrete with a lining of grass-board and coated with a limestone plaster. Metal windows are used in all rooms and the terraces have moving glass divisions. The design is simple in effect but complex in general balance and direction. The chief part of the house is three floors high, with a balcony and sun-terrace at the south-east angle and in-turning steps from balcony to garden. The west wing is designed on lines not greatly different from this, but at a lower level and less open. Connection with the garden is by a separate series of steps. It is the angles of these different-sized steps which give the sharp rhythm to the garden front and make the separate masses into a conscious and living unit. The furniture is designed by the architect on clean lines with polished metal frames—examples of the

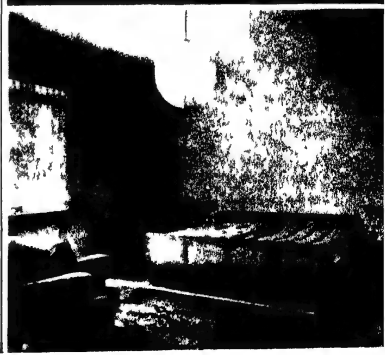
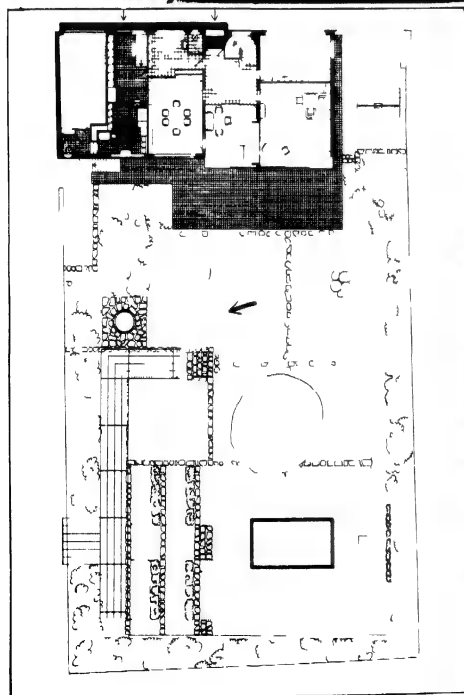
greatest step forward there has been in the art and science of comfort between the discovery of the feather-bed and the invention of Corbusier's "cowboy" chair.

Like most serious architects Breuer has his best designs still in his office drawers. His design for a hospital of 1100 beds is uncommonly interesting, the complete structure being stepped back in long stages like a sports' building and supported from the back by tall, open-spaced columns. His design for a great wall of flats two rooms deep and eighteen floors high to be put up at Spandau-Hasselhorst, Berlin, is on so unlimited a scale that it is hard to see what the effect would be if it were in physical existence. But there is no doubt that it is the work of an architect of more than normal force of mind, and, in fact, Breuer is probably the most interesting of the younger architects working in Europe to-day.

MOLNÁR FARKAS (Budapest)

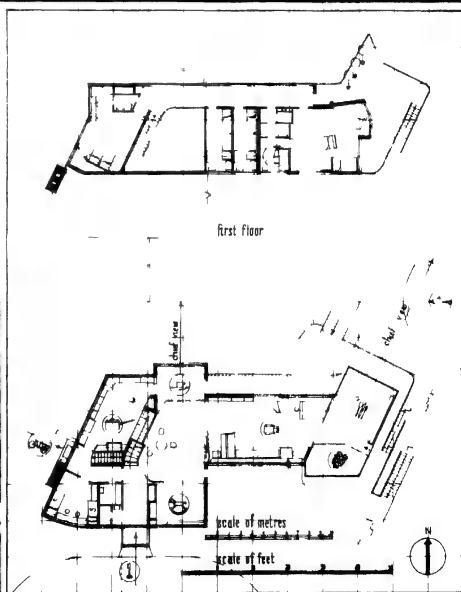
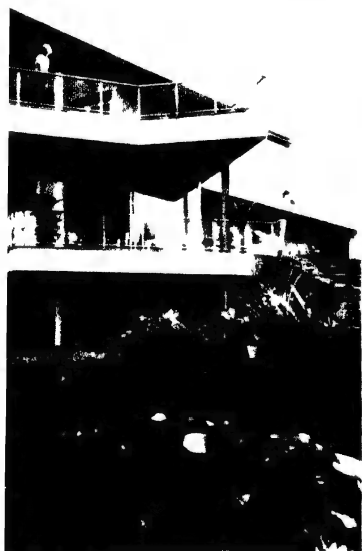
107. *House in the Rosenhügel, Budapest* (1932)

Most of the designs by Molnár Farkas, in fact all I have seen, are marked by a conscious feeling for space. The signs of this are to be seen in his simple massing, deep windowing and open planning. This desire for space is only to be answered by simple forms of geometry—anything more would have the effect of making a house seem shut in, even crushed. This may probably be the truest reason for our present attack on ornament—the fact that it takes away all feeling of space. The House in the Rosenhügel, small as it is, has by its simple form and clean early-morning look the effect of making a seeming expansion of space, and gives one the feeling that inside its smooth sharply cut walls there will be wide rooms and the air of being in a building designed on a much greater scale. It is in white-plastered brickwork and placed in a natural garden of young fruit trees. Inside it is quite as good as was hoped for at the first view. Molnár Farkas, like Breuer, is one of the most interesting, and certainly one of the best, of the



Example 99

Bernhard Pfau (Dusseldorf).
House W.K. in Viersen, Rhineland (1932).
The garden front, the living room and the
chief bedroom.



younger architects now working in Europe. Before long more attention will be given to his work than to that of most other architects of his years.

JOSEF FISCHER (Budapest)

108. *Villa Schächter, Budapest (1932)*

With Josef Fischer the outside of a house is probably less important than the inside. His windowing, at least, seems designed more for the persons in the house than for those outside in the street. The question of organization in a house is so joined up with the complete form that it is hard to say if badly spaced windowing is an error of planning or simply a sign that good form is not necessarily produced by good planning. In the writer's opinion the first of these answers is the truer, and the uncertainly judged windowing of the Villa Schächter is without doubt the outcome of trouble in planning. In fact, this is clearly so, the placing of the house being uncommonly narrow, so that one side is only eleven feet from the edge. It is, in addition, ten feet under road level, so that it was necessary for the structure to be lifted to this level on columns. Under such conditions it was possibly natural that the design had to be somewhat crushed in the outcome. The architect has in some degree got over this, but the effect is still to be seen in the forced spacing of the windows, specially at the sides and back. The house is placed high up on a slope, with views over the town. The structure is of brick and concrete done outside in rubbed sand, floors in wood units and roof steel-concrete. It is three floors high with a sleeping-out place and terrace on the roof.

SIGURDUR GUDMUNDSSON (Reykjavik)

110. *House Olafssonar, Reykjavik, Iceland (1931)*

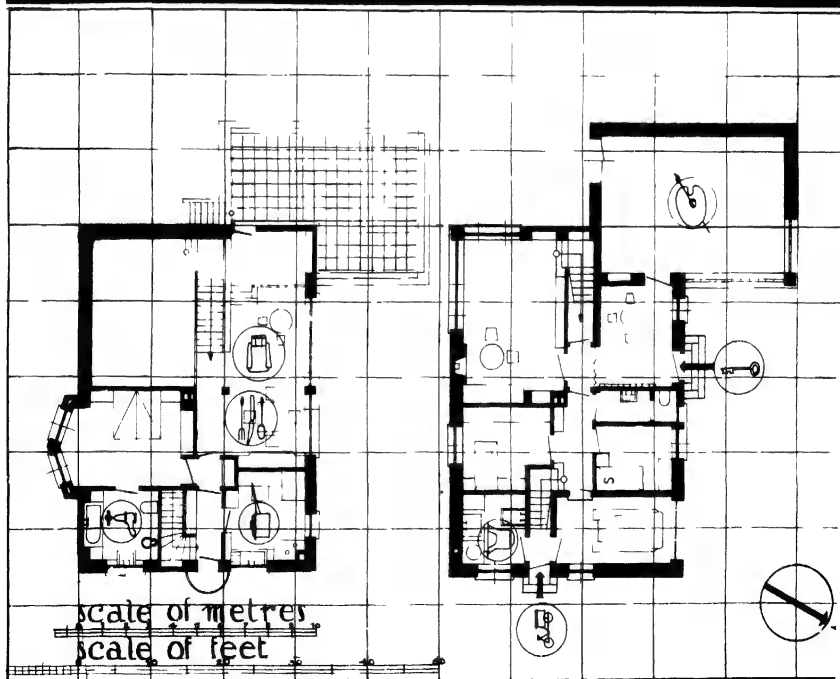
Sigurdur Gudmundsson, who was trained in Copenhagen, has done a surprising amount of work for so small a town as Reykjavik,

having been responsible for a hospital, a school—a first-rate bit of work—and a number of private houses in and about the town. The quality of his work is Scandinavian—solid, serious and hard. The House Olafssonar is probably the best of his private houses, a square concrete building on upright lines, quite different from the general side-to-side direction of most of the examples in this book. It is two floors high with, in addition, a floor half under street level. On this floor are the playroom, a room for drying clothing, store and wash-house. The planning of the rest of the house is on the old lines, the lower floor being in four regular divisions—a room for meals, living-room, library and cooking-room—grouped round the hall, and the first floor in six bedrooms, two of them opening on to a small balcony. Structure is in steel-concrete, flooring and roof in the same material, windows and front door metal-framed. The outside walls are done in rough plaster. Heating is by automatic oil-firing. In comparison with most architects in countries less far away from the centres of greatest development in building, Gudmundsson is certainly wide awake to the best tendencies in present-day design.

GRIFFINI, FALUDI & BOTTONI (Milan)

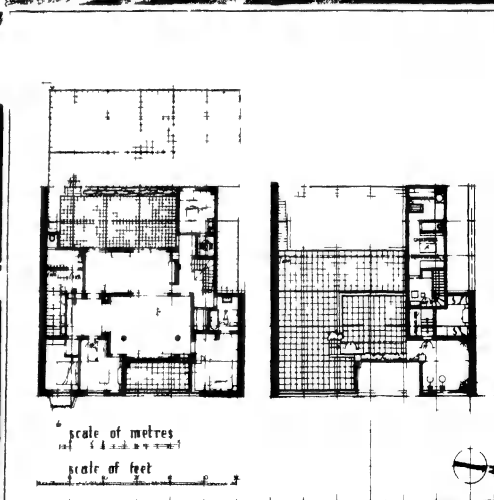
111. *Week-end House, Triennale di Milano* (1933)

This example is one of a group of five houses designed for the Milan Exposition of 1933. They are small pleasure-houses more than living-houses, though planned for living in at any time of the year, and the architect's purpose has been to make a simple and pleasing form of covering for owners chiefly taken up with outdoor amusement, sea-bathing and so on. They are not so much Italian in feeling as Mediterranean, even international, and ex. 111, number four of the group, has in some ways the sharp delicate quality of a Corbusier design, the comparison being specially marked in the clean lift of the structure into the air on thin steel supports. The structure is framed and done in concrete units on



Example 101

*Angelos Schagas (Athens).
The architect's house, Athens (1930).
The north front.*



a brick base. The only space taken up on the lower floor is by the automobile-house and the glass-bricked sun-room. Three parts of the first floor are given over to the living-room, two bedrooms, bath and cooking-rooms, the rest being taken up by a terrace in what is almost a balcony form. Glass has been widely used, and the windows to the living-room, with their narrow-banded sun-canvases, are a well-judged use of the long low opening for the dry, sharp-edged sunlight of Italy.

ANTONIN RAYMOND (Tokyo)

112. *The architect's house, Tokyo* (1924)

116. *House Akaboshi, Tokyo* (1932)

117, 118. *Summer House, Asama Mountain* (1933)

Antonin Raymond's birthplace was in Czechoslovakia. In the years before 1914 he went to the science school at Prague, and after that to America where he got into the office of Frank Lloyd Wright who, seeing how uncommonly able he was, sent him to Japan to take control of the building of the Imperial Hotel. He went on living in Japan and, a short time after the great earth shock of 1923, which happily did little damage to the hotel, put a house up for himself in Tokyo (ex. 112).

It was this great earth shock which had such an effect on Japanese building in general. Numbers of young Japanese architects had been going overseas for their training, specially to America, where with great industry they became expert at all the tricks of the trade and came back with their heads full of the dear old ways of Greece and Rome. Tokyo, like all other great towns, has a great number of these copy-book buildings, but they seem more false there than anywhere because Japan has had for a long time a wise and delicate taste in the art of building. In the last ten years it has been seen that the great architects of the present day—Wright in America, Corbusier in France, Oud in Holland and Miës in

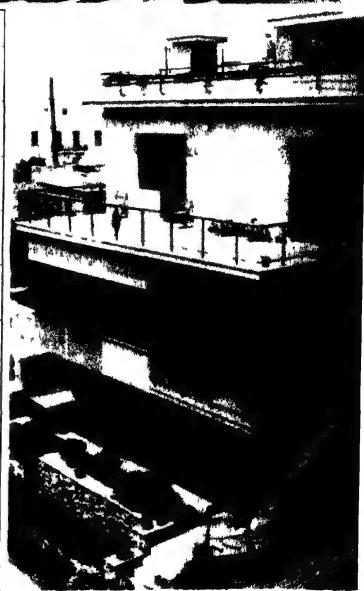
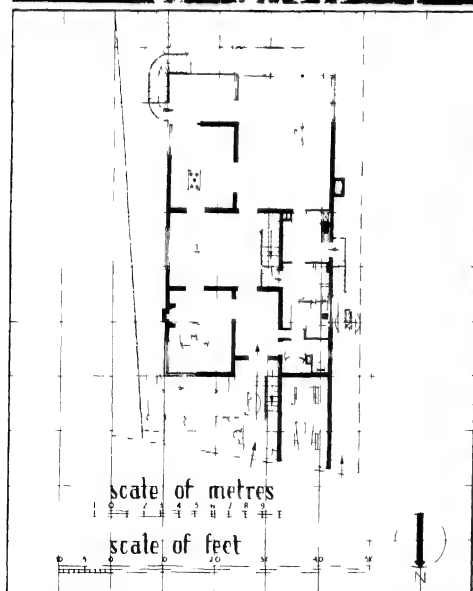
Germany—are at work in a way in which, almost for the first time in the history of art, East and West come together.

We have seen how the West, between 1700 and 1800, came into touch with the ornament of the East and made use of it in, for example, Chippendale chairs and the summer-houses at Kew Gardens. In the same way the East in the last forty years has made free use of the ornament of the West—the columns, doorways, windows and little details of Palladio or Vignola. But what of the forms and qualities equally natural to East and West? You may see if we have at last come through to these or not in the House Sakio Tsurumi (ex. 114) and the house in Viersen (ex. 99). The death of ornament is the chief reason why East and West and North and South are more in agreement now than they have ever been before.

Japanese houses have at all times been simple and unornamented. While Chinese roofs are brightly coloured, Japanese are black or smoke-grey. The natural structure of the wood of the elm or other trees is kept uncoloured and unpolished and made healthy by the clear liquid of the persimmon—a fruit very common in Japan. The materials used are all necessary for their purposes and the forms are complete in themselves. The house is physically one with the materials of which it is made—natural wood, dry grain-stems underfoot, sand on the walls. It has no material value in itself but only in so far as it is right for its purpose.

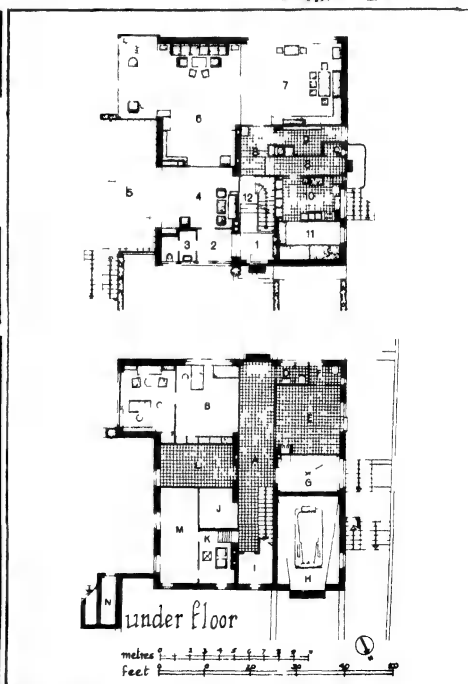
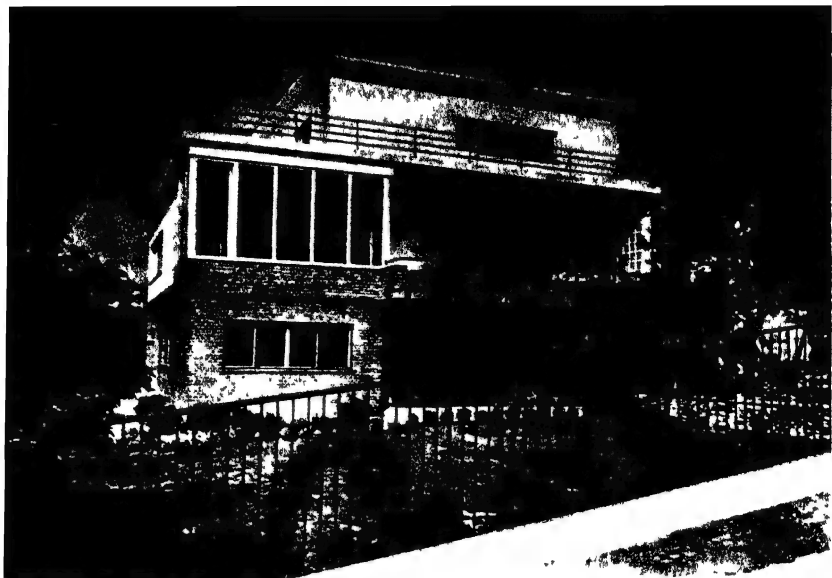
The Japanese architect comes at the beautiful by way of the necessary—by the cutting out of all waste. Quiet space is made by putting away the noise of ornament. Rooms have no furniture. There are no chairs and when tables are needed they are taken out of a cupboard. Windows are not covered over with curtains. Anything of any value, silks, pots, pictures, mouldings in stone or wood, is kept in boxes in the store-house safe against fire, water and insects.

The Japanese house, like the houses of any other country, is designed in agreement with natural forces and the conditions of the weather. In Japan the weather is in turn very wet and very



Example 103

*Alexandre Dragoumis (Athens).
3 Place du Lycabette, Athens (1931).
Air-view and the south balconies.*



dry. Shoes go green overnight in the wet summer. Cracks come in the woodwork in the dry winter. There are burning suns and sudden rains. The house is open on the south side so that in summer it may be kept cold by the winds which come from that direction. The screens and paper windows will all take down so that, but for the curtains of thin wood, the house may be kept completely open. In winter the wind comes from the north and on that side the only openings are very small.

The relation of house to garden is most important. One is open to the other. The rain and wind are not shut out. The rain has to be seen falling on the leaves. The wind has to be in hearing when it goes about in the branches. The colour of the sky has to be seen when the dark comes on at nightfall. In this way the Japanese house is a design for living.

And then there is the "kimono", or keeping peace with forces outside the natural order of things. The plans of the house have to be tested by men of religion. This belief is as old as China. In China it is the rule to have all buildings facing south. But under certain conditions this rule is broken. Rivers, mountains and directions of wind have all to be taken into special account in the parts of the plan. The effects of such natural and more than natural forces are given the general name of Fengshui (windwater). Fengshui is a guiding rule for all things in connection with the design and outlook of a building and its relation to its position. All stretches of water, mountains and waterfalls which have to do with Fengshui are specially to be respected. The Powers of Destruction go only in a straight line, and so every view through a Chinese house is shut at the end with a special wall. For this book I have not been able to get any examples of Chinese houses after 1900. In Shanghai, Peking and other places there are new houses put up by European architects but they are of little interest. China, most unchanging of all countries in her ways of building—she has had the same forms for the last 4000 years—has not made any start so far in putting her old wine into new bottles. So we have to go back to Japan to see what the new building is like in the East.

In Japan the material qualities of a building have long been unimportant, and up to the great earth shock of 1923 all houses were of wood and frequently pulled down and put up again. Because of the great scale of this event and the increasing knowledge of science in Japan public attention was turned in the direction of new forms of building. It was quickly seen that in steel-concrete they had what they were looking for. All the Japanese houses given here are made—floors and walls—of steel-concrete—all but the Summer House, Asama Mountain (exx. 117, 118), where the base only is of concrete, the rest being of wood.

Antonin Raymond's house (ex. 112) in Tokyo (1924) was one of the first houses in concrete—walls, floors, screw-form steps and flat roofs all being of this material. Outside the walls have a polished face, inside the plaster is covered with thin cotton-cloth painted grey-white in oil colours. The floors are covered with rubber. The house is on the top of a slope with views to the south-east over the gardens of the American Embassy. To the west and north the view is over Tokyo to the far mountains. The roof-garden is much used for meals. The living-room is open to the garden square at the back of the street wall.

The House Akaboshi (ex. 116), Tokyo (1932), is another example in steel-concrete. It is on a slope, with stretches of grass to the south and a thick wood to the north. There is a view of the sea from the roof, on which there is an Old Japanese room for meeting friends in the old way. The present-day Japanese may seem to be living like a man of the West, but the building forms of the two great divisions of the earth may come into complete harmony in the right hands. The floors of this house are covered with oak in small units, mosaic and rubber. The walls are very like those in the architect's house. The windows, with their wood frames, may be moved to the side against the wall—the sort of window, in fact, commonly used in Japan.

Other good buildings by Raymond are the French Embassy, Tokyo (1932), with its swimming-bath and beautiful garden, the House Kawasaki, Tokyo (1933), and the House Hatoyama (1933).

But possibly the most interesting of all is the architect's Summer House at Karuizawa (exx. 117, 118) (1933) near the burning mountain of Asama. In his other houses Raymond puts the West into adjustment with the East, here he takes the East and gives it that free development which has now been made possible by the experience of the West—"with some little debt to Corbusier", as he says. The "debt" is to Corbusier's South American house for Mme Errazuriz. Raymond's house is on high flat country at the base of Asama where, though the summer sun is very warm, the air is more or less cold and the shade pleasing. On the grass and concrete terrace is a swimming-bath, and there is another stretch of water at the garden foot. Only the cell-form concrete base and the iron roof covered with layers of leaves are not of wood. The columns are the natural stems of trees; floors and walls are of wide unpolished boards.

The house is two floors high with sloped foot-ways in place of steps. The architect's workroom is on the first floor. The long living-room is an uncommonly good example of building for use. The great fireplace is in rough concrete coloured by the smoke. The tables and chairs are in a natural wood which goes well with the board floor. All the doors of this room may be put away into a box, so making it quite open to the sun; or curtains of water-grass may be let down to make a shade. I give two views of this living-room looking to Asama. To those who have nothing round them but the noise of a great town this is a good quiet picture to keep in the mind's eye.

SUTEMI HORIGUTI (Tokyo)

113. *House Kitikawa, Tokyo* (1928-30)

This house is in one of the high parts of Tokyo, and in clear weather has a view of the delicate white top of Fuji. It is in steel-concrete with the walls made specially strong against the frequent earth shocks. The outside walls are faced with light yellow

mosaics, the inside with soft boards covered with a sort of plaster which keeps the rooms dry in wet weather. In Tokyo the summers are very warm and wet, the winters dry and cold. The heating system of this house is automatically controlled by an oil-burning apparatus. In summer the chief rooms are kept cold electrically. In place of the normal Japanese garden there is one more in harmony with such a new house as this and pleasingly designed with waterways and stretches of grass.

MAMORU YAMADA (Tokyo)

114, 115. *House Sakio Tsurumi, Tokyo* (1931)

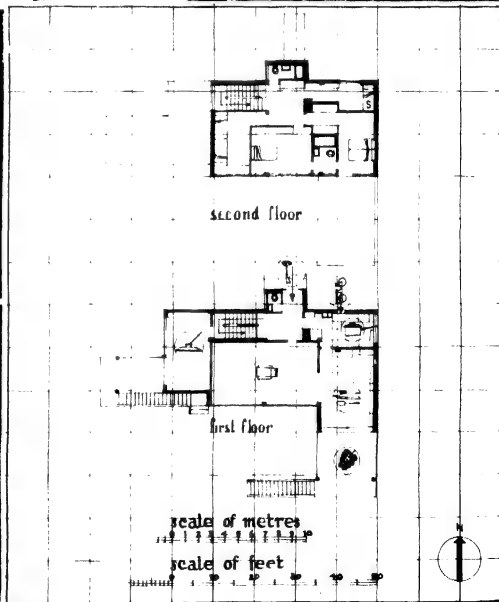
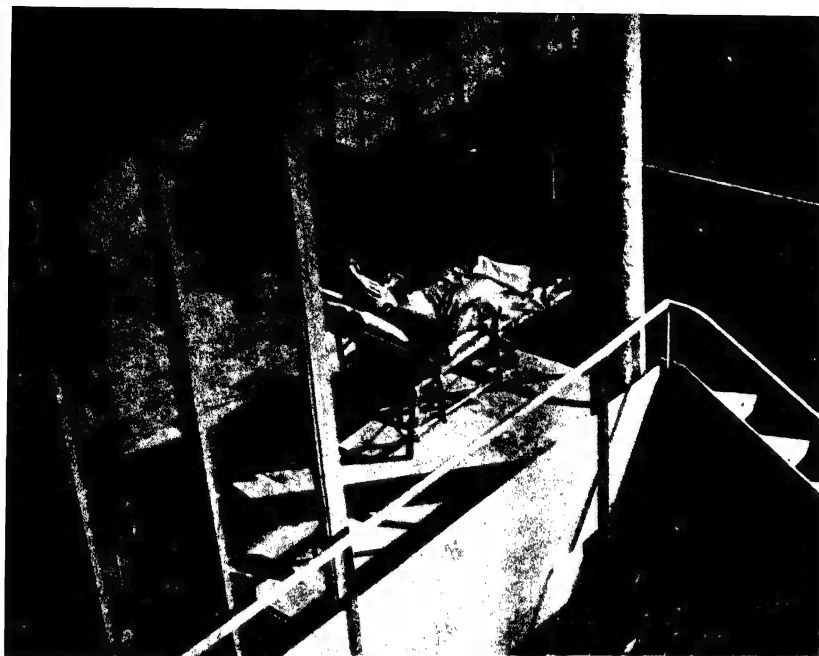
The Tsurumi house, a steel-concrete building, has been made part of an old house which has been in existence for some time. The agreement of the two forms of building is surprising. It certainly seems good support for the theory that Japanese workmen, because of their long training in handwork, are even more able in the use of new building materials than we are. A look at the view of the west front (ex. 114) will give you even more support for this belief. The natural stone and moulded concrete are equally well done. The band round the lower part of the wall is faced with mosaic. Round glass units are fixed into the walls of the W.C.'s. The windows and wood shutters may be moved smoothly to the side.

The old sort of Japanese bathroom has been kept. This, as will be seen from the plan, has a dressing-room joining it. After getting a good coating of soap and a sponge-down you let yourself delicately into the bath, which is made of white sweet-smelling wood. In this deep bath the water comes up to your neck. The family all take their bath together.



Example 105

*Ludwig Kozma (Budapest).
House in the Rosenhügel, Budapest (1931-32).
bedroom and the view on to the outdoor
living place.*



KAMEKI TSUCHIURA (Tokyo)

119, 120. *House Yamamoto, Tokyo* (1933)

This house is in three parts: (1) the living-part—a wood-framed structure; (2) the Japanese part—in wood; and (3) the store-rooms—three floors in steel-concrete. The living-part is for a family of four and four servants. The Japanese part is kept for meals with friends and so on. The store-rooms are used for the safekeeping of anything of value, and have windows three layers thick—glass, wire, and iron shutters. Everything stored here is covered up in cotton and silk and put away in boxes, for which the chief male servant is responsible.

Part of the house is new and part of it old. The heating system is the last word in that sort of thing, and the pipes go under the flooring in the Japanese rooms. The walls of these last are faced with Kyoto sand in the old way. The cooking-room is European but has everything necessary for the delicate Japanese cooking. The cupboards are designed equally for small “lacquer” basins and for new silver and glass.

FR. KONOW LÜND (Bergen)

121. *House Üchermann, Bergen* (1933)

Fr. Konow Lünd (Bergen, 1889–), after being at Oslo University, was for three years at the Dresden Technische Hochschule and later had office experience in the United States. He has been working privately in Bergen from 1919. The House Üchermann is a brick and wood structure on the top of a slope over Bergen with wide views on all sides. There is nothing international about this building. It is good straightforward Norwegian, with a new turn given to the old form by the use of wide windows and smooth plaster. The attraction of this small house is probably dependent on the harmony of very different forms—deep roof-edges, dark boarding and white plaster. Inside it is less interesting, the

furniture being old Norwegian and the rooms wall-papered. There is something very pleasing about it, however, and to be living in this house through the rough Norwegian winter would in no way be an unhappy experience.

HELENA & SZYMON SYRKUS (Warsaw)

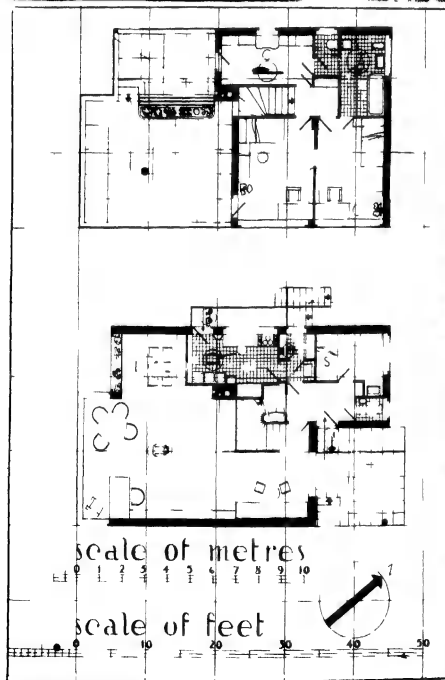
122. *House Dr N., Warsaw* (1932)

There are no half decisions about this Polish example. It is designed quite openly to make as much of the sun and air as possible and is, for this reason, windowed up to the limits. The lower floor is chiefly taken up with the living-room, the top with separate bedroom units facing south-east. The structure is taken on eight steel supports, two of which go through the living-room, a badly judged point in so small a house as this. The outer screen walls are of cell-formed concrete units made with a $\frac{3}{4}$ inch coating of sand rubbed clean after building and so making plastering unnecessary. The inside layer is of hollow burned bricks. The roof is in cell-form concrete units. The house is placed among straight trees, and the clean-cut decision of its lines has an even cleaner look against their delicate branches.

MARCEL & IULIU IANCU (Bukarest)

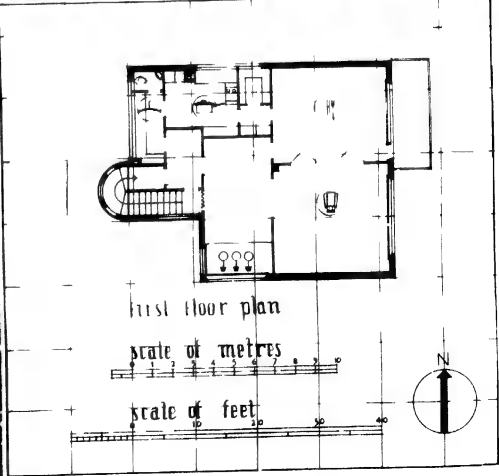
123. *House Zelinger, Bukarest* (1927)

In the last year or two a number of good houses have been put up in Rumania by such architects as Creanga and Iancu. In the work of Marcel Iancu there is a power in the moulding of the forms which is the very opposite of the strong but delicate design of Miës van der Rohe in Germany or Lurçat in France. It is as different as Tuscan Romanesque from Florentine Renaissance at its fullest development. The House Zelinger is a concrete frame structure with brick walling and steel-concrete floors.



Example 107

*Molnár Farkas (Budapest).
House in Rosenhügel, Budapest (1932).
The living room, and views from the
west and the south-east.*



RAFAEL BERGAMIN (Madrid)

124. *Casamarilla, La Coruña, Madrid* (1933)

For a hundred years Spanish architects have had little to say. What they have said has been in Moorish (like most of the banks, as in Granada for example), in market-garden Plateresque (like the railway station at Valencia) or, worse still, in jelly-building like the Casa de Milá y Campos and the Sagrada Familia of that strange architect, Gaudi (1847–1921), at Barcelona. The great simple Escorial had little effect on Spanish building. In the last four or five years there has been a new feeling in the air and some headway made, though this has not been helped very much by the political conditions and general unrest. There is the work of Luis Soto, Rafael Bergamin and Garcia Mercadal in Madrid; José de Aizpurua in San Sebastian and Sixto Illescas and J. L. Sert in Barcelona. The last-named is the best of the younger Spanish architects.

Two interesting houses by Bergamin are Maria Pilar, Zaragoza, and Casamarilla, Madrid (ex. 124). Casamarilla is a steel-concrete weed-end house on the outskirts of the town at the base of the Sierra de Guadarrama.

GARCIA MERCADAL (Madrid)

125. *Barriada Residencia, Madrid* (1932)

This example is one of a series of houses put up by Garcia Mercadal in the Hipodromo, Madrid. The distribution of these groups of houses, with gardens and open spaces in harmony with the design, is first-rate—well in line with the new work in Europe but somehow very Spanish at the same time. It has a solid look as in so much of the latest work in Italy, but this is not out of place in the bright weather of the South. Mercadal was the architect of the Goya Library in Zaragoza.

PROFESSOR OTTO SALVISBERG (Zürich)

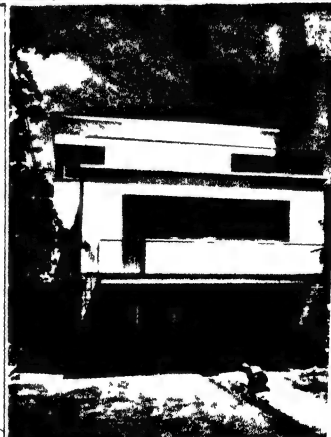
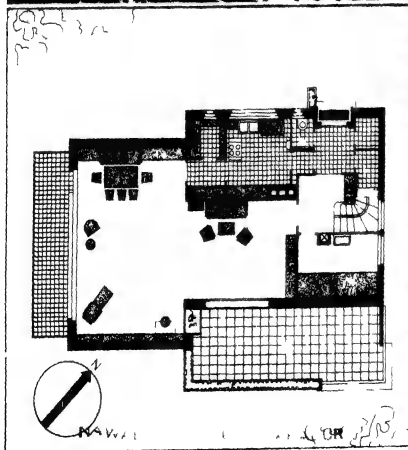
126. *The architect's house, Zürich* (1930-31)

Professor Salvisberg (1882-) is a Berne man trained in Munich under Hocheder and Thiersch. After working in Berlin from 1908 to 1929 he became Professor at the Technische Hochschule at Zürich. His house in Zürich, 1900 feet up, is a good example of building in steel-concrete, and not only of great interest as to structure but a measure of what is possible, inside and out, in the house of to-day. It is the sort of work which makes it quite clear even to the most bitter judge of present-day tendencies that the new building is not necessarily the outcome of untrained and unformed minds. The house is on the south slope of the mountains of Zürich, looking over the town and the water and with good views of the Alps. There is a sharp slope from the street, to which the house is placed at right-angles, so that one floor is under street level and part of the structure and the room for meals over the natural garden. The living-rooms and library are level with the street, and over these are the bedrooms and bathrooms. The supports go down to solid stone letting the waters coming down off the side of the mountain go clear of the building. The walls are lined inside with 5 inches of cell-form concrete, and the roof, which has a fall of 3 degrees, layered with cork and covered with copper. The concrete walls outside, with the parallel board marks of the formwork, have no facing of plaster but only a colour wash which keeps the true qualities of the material with its play of light and shade. The house is clean-cut and well-formed in design, being specially good in its adjustment to the outlook and the details of country round it.

HUBACHER & STEIGER (Zürich)

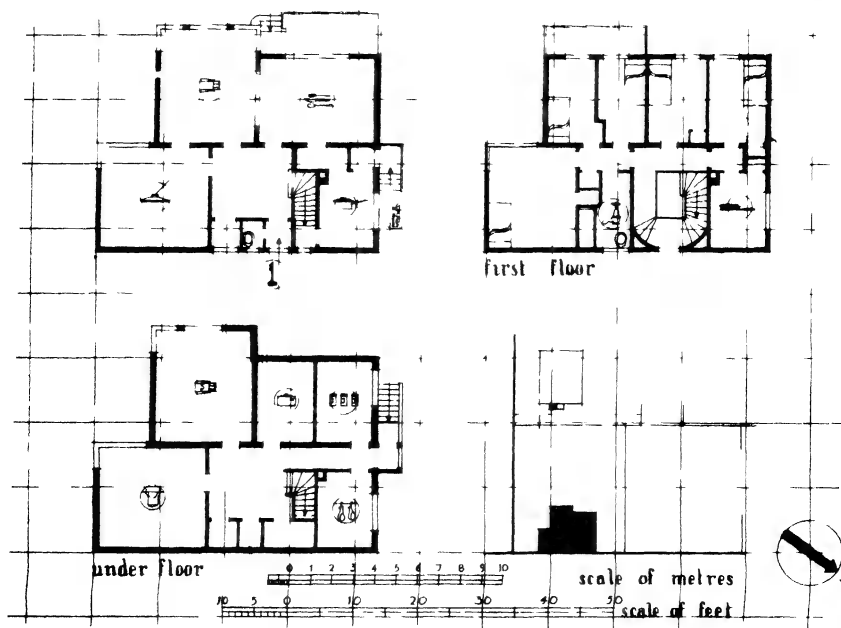
127. *Boat-House, Zürich waterfront* (1931)

This is the only example of a boat-house in the book, but there might well be more like it. One has only to take a look at the



Example 109

Ludwig Kozma (Budapest).
 House Forgács, Rosenhügel, Budapest (1932-33).
 Air-view of the south-east front and view from the
 south-west.



sample 110

*Sigurdur Gudmundsson (Reykjavik).
House Olafssonar, Reykjavik, Iceland (1931).*

riverside houses up and down the Thames to see how little attempt architects and builders have generally made at a right development on these lines. The house has a boat-slip with living-rooms over it and a terrace overhanging the water with wide views of the mountain slopes opposite. The base is of concrete and the top structure of wood.

PAUL ARTARIA (Basle)

128. *House Wildberger, Binningen, Basle (1931)*

Paul Artaria (Basle, 1892-) is more or less a self-trained architect and has been working privately in Basle from 1918. The House Wildberger (ex. 128) is placed 260 feet over the Rhine. It is three floors high, washing-room and stores on the lowest floor, cooking-room and living-rooms, planned with free connection, on the first floor and three bedrooms grouped round a hall on the second. The chief walls of the lowest floor are of 10 inch concrete, the higher walls of 10 inch brickwork. The floors are of steel-frame and cell-form concrete structure covered with wood units or cork squares. On the inside the walls are faced with a 2 inch layer of a material keeping out heat and cold. There is a system of heating worked by an automatic oil-fired boiler. The chief bedroom and the living-room have a complete wall of glass in the deep frame of their balconies, of which in this way they become a part.

We have now taken a look into quite a number of different sorts of present-day houses and this last house is a happy example of those twentieth-century qualities which I have been attempting to make clear—a sharp feeling for design without waste of material or effect, a desire to be clear-cut and bright, and a power to be clean and simple without fear or sense of shame.

LAST WORDS



My dear Sir, I am still no wiser as to why the twentieth-century house has necessarily to be so different from the house of any other time. My view is that so sudden a change in purpose and process in house-design is certain to be bad, because if we take history as our guide, and I do not see what better guide there is than the example of our fathers, it is clear that sudden and violent developments of any sort do little good and generally come to nothing in the end. And in so far as they do any good they are before their time and so damaging to possible approval in the future. No, young man, take the word of an old grey-head: go slow, take no short roads or long chances, keep your thoughts to yourself, when in doubt take the safest line, and, possibly, in time you'll be an architect. And when I say an architect I'm using the word in its full-dress sense. (A word in your ear on this point. Let us have no more talk about the engineer-architect. In my experience if the engineer is not kept in his place there's no stopping him. We architects have got to be like medical men and judges to keep a solid front against all outsiders.) Lastly, is it not probable that what was good enough for Michelangelo and Wren will be good enough for us who are at a far lower level in power, range and feeling? When we are the equals of architects like these it will be time to make a start at airing our views on the need for "new" building.



There was in the earlier part of this book quite a long attempt to make it clear that the twentieth-century house is a natural and even a late growth of forces which had been working in that direction for at least fifty years, so it would be hard on my other hearers if I went through my facts and examples for a second time. But, possibly, on your scale fifty years

is still much less than the necessary waste of time there has to be before a cause may have an effect. As one who has ever kept geology and building quite separate in his mind I am naturally unable to see in what way the twentieth-century house is to be looked upon as a "sudden" or a "violent" development. To my mind it has been uncommonly slow and, in comparison with Neo-Gothic, Neo-Georgian and Neo-this-that-and-the-other, surprisingly normal. In fact I would go so far as to say that no building has ever been done with less noise and self-advertisement than the building of the twentieth-century house. There has been a certain amount of other advertisement, naturally, but chiefly of the undesired sort—inventions of newspaper-men making news about anything different from what the public is used to. But for the shocked cry of one or two of the old school the only other sound has been that of the deep breathing of uninterested architects up and down the country. As for your opinion of the engineer, I say that not till the powers of the architect and the engineer are greatly united again in one person will we have another Brunelleschi, Alberti or Wren, and when that great man does come he will be as different from them as chalk from cheese or concrete from stone.

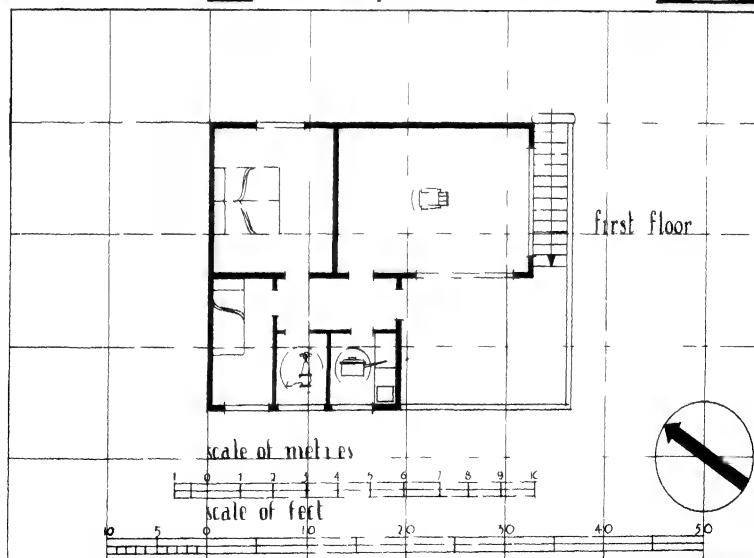


Concrete! Are you seriously of the opinion that concrete is a material for responsible architects? My dear Sir, if I may say so, the process of building a house in concrete seems more a business for a cook than an architect. You put the jelly in, let it get stiff, take the basin away, and there you are! The effect is smooth, hard and skin-tight, but please do not say in my hearing that it is Art. As one schooled in "Orders" which have been tested by two thousand years of responsible building I give you my reasoned opinion that the use of concrete and all forms of plaster is not only an error of taste but a sign that you are letting down your brother architects and generally being false to your Trade. Concrete is engineering, and every time an architect makes a design for the use of concrete he is letting the engineer get the better of him. No, Sir. Keep your self-respect, keep inside

your limits, keep a sharp eye open for any danger to your interests as an architect, and keep clear of concrete. It is an invention of the engineer for undercutting our orders—all right for stores and works and trade, but for the private house as little in harmony with the purpose as roofing-iron.

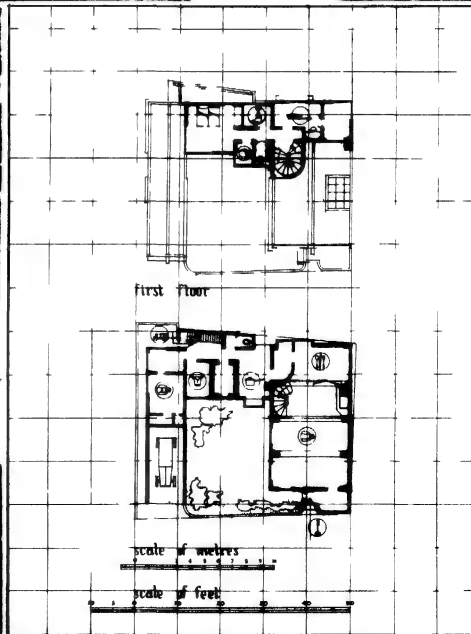


That is an interesting opinion—interesting in the museum sense. It had seemed to me that steel-concrete was as much an instrument of the architect as brick, stone and wood—naturally dependent on the conditions of the position, purpose of the structure and desires of the owner, but in every other way as open to his selection as any other material. It is clean, strong and almost unlimited in range. The quality of work put into it is sometimes not as good as it might be, but that may be said equally of any other new material, and workmen are quickly becoming more expert in it. Plaster is a form of paint to be grouped with whitewash and so on, and has nothing in common with concrete. To say that it would be a good thing if the architect were kept from using it is as much as to say that the writer of music would be better without certain notes in his scale. Concrete will not take the place of brick, but it will certainly be increasingly used in all forms of building. As to its use in house-building there is no doubt that it will become more general when its good qualities and cheap upkeep, when used in its natural form, become commoner knowledge than they are at present. It does not give much chance for ornament and—more important still—those architects designing in it are generally attempting a simple effect. If our ways of living are becoming more and more reasoned and clear-cut, then a like tendency in building is only natural. Nothing is less in harmony with the truest desires of the representative man of to-day than the uncontrolled use of ornament, and till his digestion is free from the effects of a hundred years of overuse the limits of concrete in this direction will do him a great amount of good. In addition to this the ever-increasing number of houses makes it necessary for houses to be more like one another than they have been up to the present. When there was only a



Example 111

Griffini, Faludi and Bottoni (Milan).
Weekend House, Triennale di Milano (1933).
View from the south.

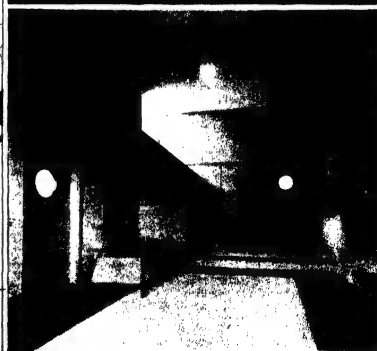
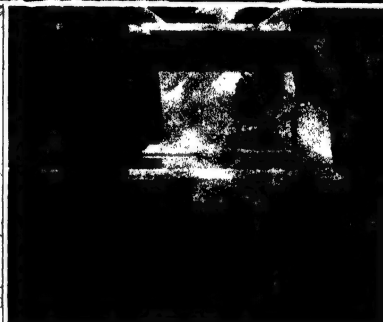
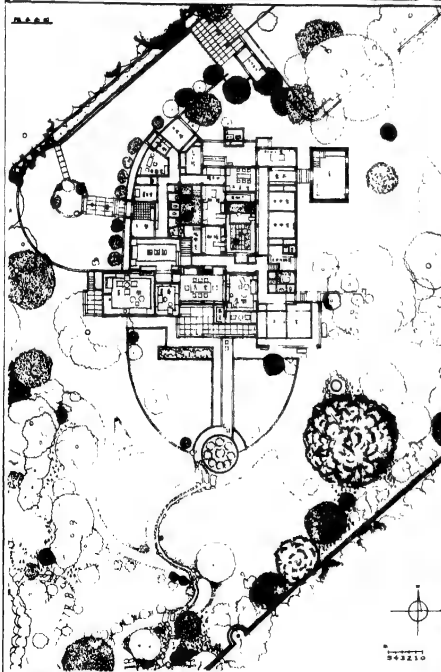
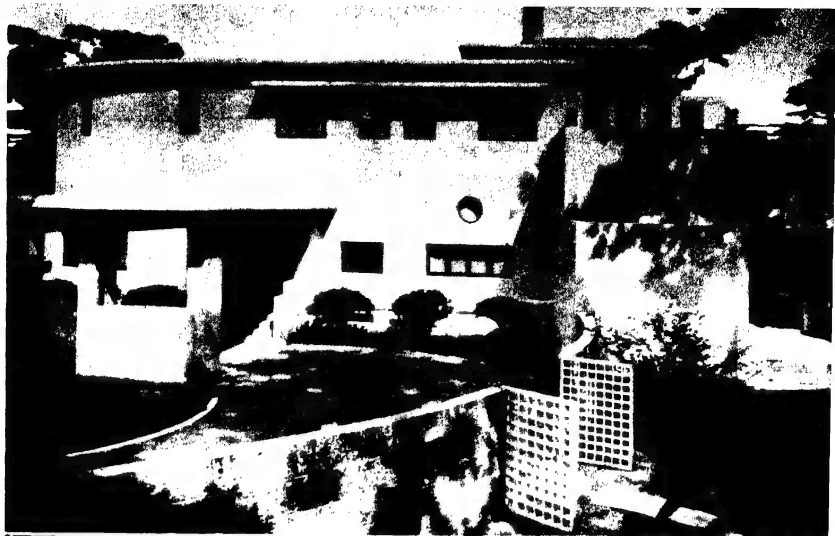


limited number of men who had the money and the time for ornamenting the outsides of their houses the general rule was for the common stone or brick house to be as simple as the concrete house of to-day. But with the coming of the business-man and his false time-values and war-cry of "the little bit more which others haven't got" there has been a sudden growth of ornament over all houses with more than four rooms, so that wherever you go you see nothing but those little advertisement additions whose only purpose is to make cheap houses seem better than they are. Naturally the public has no idea what is good and what is bad, and the only healthy step is to make a clean start and let ornament take a rest. This is not simply reaction. It is common sense of an almost medical sort. And when I say "ornament" I'm using the word as covering such unnecessary details as those sharply sloping roofs and pointed roof-ends which give our sky-lines the look of broken bottles on college walls. So that for every reason—for its qualities, limits and effects, and as an education in taste—concrete is quite as important as brick. It certainly has a great future in front of it, and you may take my word for it that before this century is out it will be as commonly used as brick or stone and in a wider range of work.



I'll be dead by then, please the powers! But it is not only your concrete which gives me pain. Most of your examples of the twentieth-century house are still in the old materials, but whatever the material used the effect is the same—hard, flat and unbalanced. Your private house has the look of a box or a boat or an airplane—anything in fact but a private house—and the massing of great spaces of glass makes the use of "private" in this connection quite out of place, in addition to taking away all feeling of support from the structure. As for your fear of ornament—no healthy male architect is going to let himself be limited in his Art because of common errors of taste in cheap building. Ornament is as necessary to a house as dress to men and women, and to go about clothed in skin-tights or less is still to the best of my knowledge no sign of self-respect. I will go so far in agreement

with you as to say that ornament in building as in dress is best when it is quiet, simple and natural, but that is no reason for doing completely without it. There are forms of ornament, keystones and mouldings, for example, which give a look of authority and self-respect to a building. To be simple is not a proof of quality. Let a house be first-rate in planning, massing and structure and it may still be second-rate in every other way and even unpleasing to the eye. Equally a house which is all squares, flats and angles is not necessarily simple. Nothing in building is simpler than the best eighteenth-century work but no one would say the eighteenth-century architect made no use of ornament. Your protest against it, in fact, is based on a feeling that it is necessary to be more in harmony with current taste than with the unchanging laws of Art, and because at present, though for how long or short a time no one is certain, the machine is in the position of authority and makes materials with a narrow range of effect and units of fixed sizes and sorts, design has to be equally limited. To give up your birthright to the machine in this way is against all reason. In the twentieth-century house the development and spacing of windows has seemingly taken the place of ornament, but glass, when used on a great scale, has even less relation to structure than ornament and, in fact, has generally the opposite effect of making a building or a room seem unsupported. Planes are put out of relation by it and, specially when silvered and, as you say, "used to give space to a room", the eye is tricked and there is loss of attention or rest and the feeling of being inside four quietly spaced walls. To give up the fourth wall completely to glass, and possibly the third and second, is to let oneself be seriously dependent on the weather and the amount of sun. Only a certain amount of light is needed or desired in a room, and in my experience it is generally best to have it coming from one certain direction. Overmuch light in a living-room is almost as bad as overmuch noise. A house is a place to go into, but if it is to be so little different from the terrace or garden or street outside then let us take to living under canvas and be done with doing things by halves.



Example 113

*Sutemi Horiguti (Tokyo).
House Kitikawa, Tokyo (1928-30)
The east front, the little garden with
playing water and the hall.*

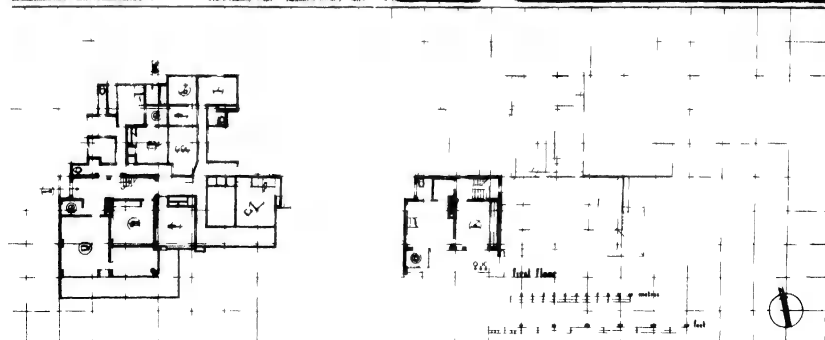
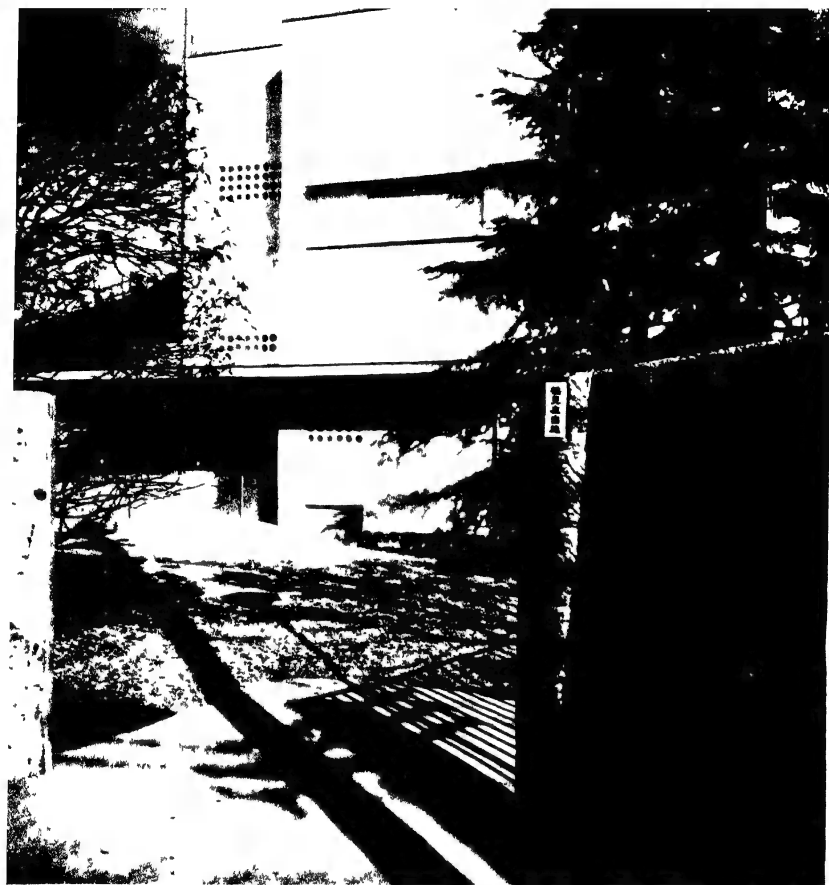


plate 114

*Mamoru Yamada (Tokyo).
House Sakio Tsurumi, Tokyo (1931).
The west front.*



I am surprisingly in agreement with you on one or two points. Unforced ornament on great-scale buildings, as in the eighteenth century, is frequently a necessary part of the design. But if the same effect may be had by the use of natural details of the structure itself then ornament has no reason for existence. But are we using the word "ornament" in the same sense? My belief is that by "ornament" you have in mind whatever is used in the design to give a building position in society, while to me it is whatever is used for anything other than a building purpose. We are equally respecters of good form, you in behaviour and I in building, and I have a feeling that my position in this connection is the more right of the two. A house is, after all, in the first place a building for use and has only to be on its best behaviour to the man in the street. It seems to me that the second effect is dependent on the first and only when a house is truly good as a building is it an example of "good form". To be respected only because of one's dress is less pleasing than to be respected because of one's qualities. This comparison with dress, however, is not completely to the point, and if taken very far will get us shockingly mixed up. A house is only to be looked upon as dressed when it is clothed in ivy and other plants or covered with ornament. The twentieth-century house is not dependent on these chance additions, and has no sense of shame or feeling that there are parts of it whose purpose makes them unpleasing to the eye. It is not a picture but solid geometry, and to say that the outside of a four-square solid is its dress or that it is in need of a number of interesting additions to make it seem more or less square is not good reasoning. As for your opinions of the present use of glass, you are right in so far as it is possible to make wrong use of any material. If there is overmuch glass used then there is overmuch and that is all there is about it. But I am not in agreement with your attack on the present tendency to make a wider and freer use of it. Windows were kept in small separate units only because of the need to have wall space between them as supports of the structure, but now that frame structure has made this unnecessary

it would be poor reasoning to keep on designing them in this way. If light is to come into a room then it may as well come in all together and not through separate holes in the wall. So long as window space is in agreement with the needs of the structure, I see no reason for it to be in small fixed units when it is possible for it to be banded together as a more important part in the organization of the design. The upright lines of the separate window are not in harmony with the generally side-to-side direction of the lines of the twentieth-century house or with the wide, flat spacing of its rooms. The long band of window is a natural and necessary outcome of conditions quite different from those of earlier houses. Sunlight and air and the physical well-being of the persons living in a house are quite as important as pleasure in beautiful forms. For this reason, in addition, an increase of window space, if made possible without loss of heat in cold weather, is to be desired. If less light or a change of light is needed then it is not hard to have the curtains pulled across. In fact the use of frame structure to make light openings free is a good thing from every point of view, and there is no better support of my statement than the House Tugendhat (ex. 90) by Miës van der Rohe. Looking-glass in good-sized plates gives a feeling of space to any room and has the effect of another window without its heat-loss, and so is best when placed in delicate relation with the true windows and not, as commonly, in competition with them. As with anything of any value great care is necessary in its use—but, as I say, if seen as a sort of private and secret window or even as a picture in need of the most delicate light and the wisest position, it will take a pleasing part in any room and give it a feeling of light and space.



The point in your argument which seems to be the key to your position is that it is better to be free than fixed. I am strongly against this idea. Free planning is quite as bad as free love and free trade. You say that because concrete and steel-frame structure are free forms of building they are good. For the very same reasons I say they are bad. Art is limited by rules

in the same way as a picture is limited by its frame, and to say that there is no longer any need for these rules is as much as to say that a picture may have any outline under the sun. Even painters of the most crack-brained sort still keep to the old square frames. Their designs may be as unformed as a baby's first pencillings but though they are all wrong on this point they have still enough sense to keep inside a frame. Even the architect has no idea of what to do with his new discoveries, and with all his talk of "free planning", "free material" and "free spacing" has done no designs one-hundredth part as free as Baroque or Gothic. Quite the opposite in fact. Faced with the loss of limits in every direction all he has done is to put up a number of "simple", "unforced" and "natural" forms which have as little to do with free design as buildings in the earliest and lowest stages of society. Even his furniture is fixed. His range has become narrower and narrower till his houses are no better than work-buildings and his work-buildings only houses on a greater scale. Art is free only inside its limits. It is completely dependent on these limits and when they are exchanged for uncontrolled impulse the effect is necessarily a loss of decision and a feeble attempt to be "simple" and "natural" because in forms of this sort it is possible to be safe and "different" at the same time. But he does not put his ideas to the test. His buildings do not give one a feeling of being free. They are not attempts to make the most of this new condition of things. From his high-sounding talk and theories one might say that he was sharply conscious of being free in every way but he makes no statements about it when it comes to building. And why? The answer to this question is in the old story that when seven errors are forced out of a man their place is generally taken by ten times their number and his condition is worse than before. The same is true here. The twentieth-century architect has given up the limits of art in exchange for the limits of himself as one small two-legged animal who will not on any condition make use of the experience of three thousand years of wiser men than he has any hopes of being. It would be foolish if it were not so false

or such a danger to the men coming after him. In my view it is high time an attempt was made at accounting for this hole in your argument. What reason is it possible to give for it other than that your theory and your building have nothing whatever to do with one another? There might be some interesting points in this twentieth-century house of yours if only you would make them clear to me, but all you say is that it is "free" and "simple" and "natural", as if it were not possible to say the same of almost any chance selection of buildings from all times and all countries.



That the architect of the present day is free is a statement based on comparison with the architects of earlier times. There is no doubt that in frame structure the need for solid and regular supports in the form of columns, arches and thick walls is no longer present and that in this sense the architect is free to give his attention to the other parts of the building which had been conditioned by this need. In the same way concrete is a material which may be more readily moulded than stone and here again, though to a less important degree in the small house, he is free from the need for building in small units and for a regular and frequent distribution of weight. But in no way is he free from the laws of engineering and art. The operation of these laws, however, in steel-concrete building has a different effect from their operation in the older conditions of building, and if we are to see present-day design in a true light we will have to get used, for example, to the fact that a thin steel column is as strong as a thick stone column in supporting the very different structure over it. Free planning is an outcome of these new conditions and as natural an outcome as the free planning in the old Japanese house. When walls are walls no longer but screens between inside and outside and room and room, it is natural for them to be used almost as curtains. That is what is being done in the twentieth-century house. When Miës van der Rohe and Mendelsohn make designs for houses in which a complete wall is given over to one wide moving window they are not playing tricks for amusement or effect but turning to good use this fact that the

wall is no longer needed for its old purpose as a support and is now able to do what it has been attempting to do all the time in a small way by limited openings in its structure, that is, to be a connection in addition to a screen between the good things outside the house and the good things inside it. When the good things outside are sunlight, clean air, possibly a beautiful garden and a wide outlook, this is certainly not to be regretted. That is all there is in free planning—a living connection between all parts of the house, outside and in, the best use of the given space. As for fixed furniture, this is an outcome of the parallel tendency to see such units as cupboards, book-shelves, baths, even beds and seats, as part of the regular and normal apparatus of a house and so coming inside its purpose as a structure.

The frequent use of the words “simple” and “natural” in connection with examples of the twentieth-century house is not a sign of loose writing but is based on qualities to be seen to a greater degree in buildings of this sort than in any other. It is true that these words may be used of other buildings from other times but the reason for underlining them so much in this book is that, unlike all other sorts of building at the present day, *only the Twentieth-Century House is simple and natural to the conditions of the twentieth century*. First of all let us get clear in our minds the sense of these two words. To do that it will be necessary to make some attempt at outlining the root purposes of art generally.

Art of any sort, in my opinion, is in effect an ordered selection of things giving pleasure to the mind, through the senses, and not only an ordered selection and a common pleasure but a selection in a special order giving a special sort of pleasure. The value of the pleasure is dependent on the quality of the order. Now order is the organization of the common qualities in different parts for a united purpose. If this purpose is the pulling of a weight the seamen or whoever they are do not give a pull separately in different directions and at different times but all together and at the same time. That is organization of common qualities—here muscles and weight—in different parts for a united purpose, and

it may be noted that even in this small example the effect is certainly pleasing—more pleasing at any rate than if these seamen had gone about the business separately and the desired effect of pulling the weight had not come about. In the art of building, as in the art of pulling a weight, the purpose comes first, here to make a place for living in, at its simplest to put a roof over our heads and screens against the weather, at its most complex to make a stage for all the operations and interests of the persons for whom it is designed. For this the architect has a certain amount of space and material from which he has to make a selection limited by the needs, desires and conditions of the future owner. This owner may be society generally or a special person, and his needs, desires and conditions may be grouped under Purpose. So even at this stage in the process purpose has a forming effect and the selection of space and material simply by being limited is half-way to organization. In the architect's mind, however, though the selection of space and the selection of material are dependent on one another the first of these is the more important and for this reason that material is best which in addition to its other uses makes for the best selection of space. (In this connection the developments in the science of building are to the point. There is no need to say again what was said before about steel and concrete but from this point of view they are certainly among the best structure materials at the present stage of development in building.)

So far the architect has, in this argument at least, got to the stage of having made his selection. In fact, however, by this very selection order is present, if only in his mind, and in so far as purpose is an idea it is now a part of his mind and of the living force in him which will give that order form in material organization. Between them the purpose and the architect will give birth to the building. But to go back to the regular, if less parallel, step-by-step process of argument: Having made his selection of space and material the architect, moved by the united force of the purpose and his special powers, gives that selection the best order possible.

Nothing is to be wasted and everything has to be pulling its full weight if this is to come about. Now the best order is the order most natural to the different parts making up that selection. In other words it is the order in which those different parts would, if they had the living force of growth in them, come to themselves as do the cells of a plant. And it is in this sense as a sort of growth that order is an organization. So much is this so, in fact, that architects have at all times, consciously or unconsciously, taken as their example of organization the natural form of man and seen in the normal relations of the parts of his body to the complete body the truest measure of moulded form. In this sense most of the best building of the past is natural and if the twentieth-century house were natural on these lines it would, no doubt, be given your approval.



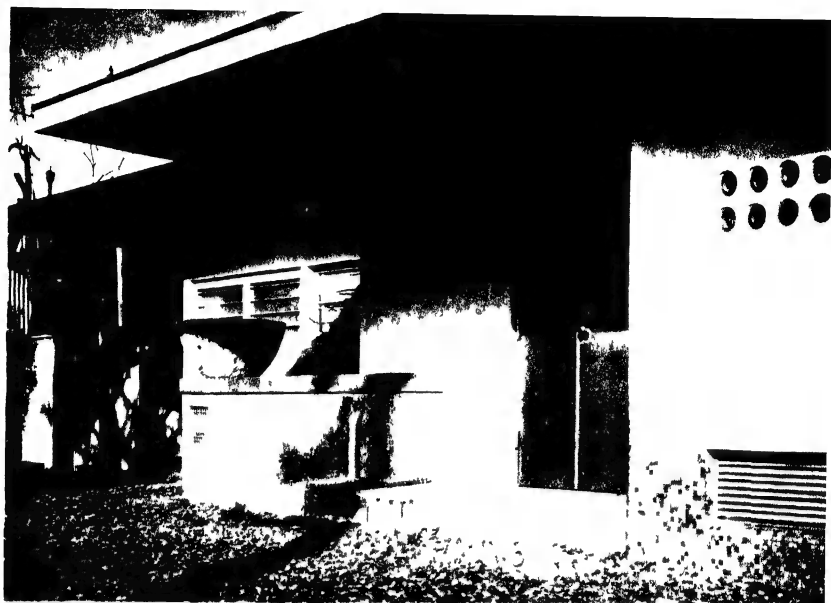
It would. But it is not natural on those lines. Its form is not based on the natural form of man and nothing you are able to say will have any effect on that opinion.



Again we are in agreement. A building has necessarily to be in scale with man but there is no need for its form to be copied from his. When I said that order was the outcome of a living organization—organization being the making of a system or a body—the parallel with the body of man was not so much with his outside as with his inside, his bone-structure, blood-vessels and inside apparatus generally, that is, with his body as a machine. It is in this way that man is an organization and it is by attention to this sort of organization that order comes about. Take care of the muscles, digestion and so on in building as in living and the rest will take care of itself. To the architect organization is the plan and in the plan the future building is as truly present as music in the printed notes. It is on that sort of organization that the twentieth-century house is based and not on the physical qualities of the outside of a natural form, and this is why a comparison is so frequently made between it and the machine. The inside of a man is as natural as his outside and in this sense a well-planned house is more natural than a house

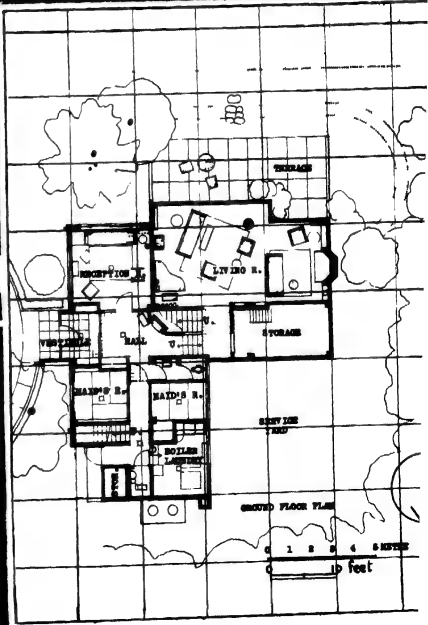
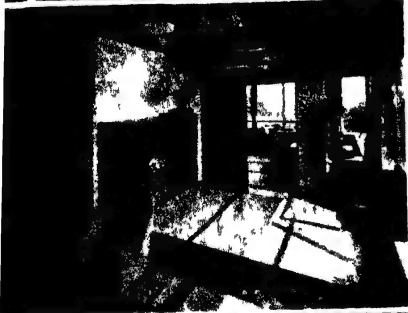
whose outside is based on natural forms without the truest relation possible to its inside.

The last stage is the process of giving this organization material existence in building. So far we have seen the architect make his selection—a selection conditioned by the purpose—and give it order by organization. The physical outcome of this is a system of walled spaces in a certain distribution which is not only right for its purpose but the best possible for its purpose. This point is frequently overlooked. It is not enough to be right; one has to be right in the best possible way. The first of these is science, the second art. In addition to this system of walled spaces there will be apparatus in the form of furniture, fixed details and so on, and, because the owner is something more than an automatic being interested only in the process of living, there will be pictures, pleasingly designed floor-coverings, curtains, a beautiful outlook, wide windows, a terrace, a garden, colour, comfort, smoothly working heating, airing and lighting, a happy feeling generally and a suggestion of peace and rest. All these come inside the organization. And more than this the architect himself in making the house has put into it a living force and feeling special to himself. In the selection of space and material and in giving them their best order this force and feeling has been everywhere present in the same way as the purpose. Purpose married to art gives order. Now for the end of this long argument. The word “order” has been used in connection with the words “organization”, “system” and “form”. These four words are the names of certain general things which all have in common the quality of being simple. Order through system and form through organization are the processes of the art of building, and the effect, based on parts however complex, is a unit. When the twentieth-century house is said to be simple and natural it is because of this effect. The architect in these days sees a house as a system or organization (Corbusier says as a machine, but this is less to the point because a machine is only a special sort of organization) and by giving his complete attention to it on these lines makes order and form. The



Example 115

*Mamoru Yamada (Tokyo).
House Sakio Tsurumi, Tokyo (1931).
The front door and a woman's private
room.*



Example 116

Antonin Raymond (Tokyo).
House Akaboshi, Tokyo (1932).
The south front, a bedroom and

quality of this order and form is dependent on its balance and rhythm, balance of solids and rhythm of line. The effect is that of a unit and so is simple. Ornament here is like the songs which come to seamen when they are pulling together, because of their pleasure in the work or because the music gives them the right rhythm. If it does that it is good, sometimes even necessary, but generally in building so much force goes into song that the effect is more that of an opera. Ornament is present in the twentieth-century house but only where a little touch of song is needed to make the rhythm certain. The better the organization the less it is needed, and that it is uncommon in the examples in this book is their best argument. Simple and natural—"simple intime"—there is nothing better to be said of a house than this.



A house which takes so long an argument to say why it is simple and natural is certainly simple and natural in a strange way. But I am tired of those two words. The greatest danger to building is theory and your theory seems to me to be the cause of all your trouble. Take my word, young man, this theory of yours will, if it becomes general, have an outcome very different from what you have in mind. Towns will be all straight lines and right angles, houses like boxes, and men and women with as little sense of the beautiful or love of living as insects.



My theory, however general it becomes, will have less effect on building than the two greatest forces at the present day—science and fear. When I say that the future may quite probably be even less pleasing than you see it, my purpose is not to put the fear of death into you but to make it clear that it is not enough to have the right ideas of building if three countries out of every four are interested only in destruction. Whatever we may say against such an idea we may in the near future be living in our family safes—safe, in hopes at least, against the gas, liquid-fire and bombs of sudden wars. There will be great holes in the earth covered and walled with steel-concrete and in these everything of value will be stored—works of art, Shakespeare's birthplace, a bit of St Paul's to keep us in mind of the good old

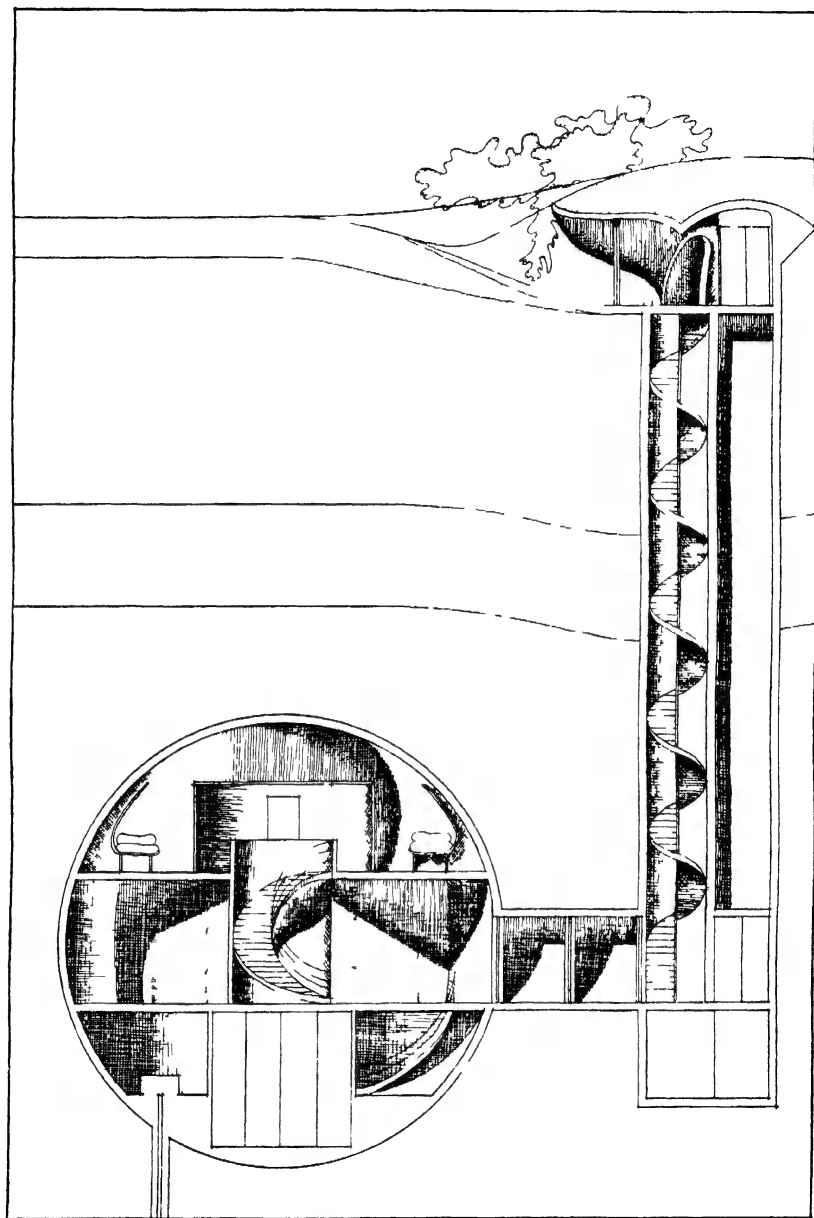
days, money, important papers, and in addition everything necessary for the existence of great numbers of men and women for a long time—food, water, housing, drains, light-apparatus, electric power, air-conditioning plant, hospitals, and so on and so on. And when the war is over we will come out of our holes and put up our little umbrella houses ready for a quick run to earth at any minute. There will be no time or place then for the Twentieth-Century House or even for the Neo-Georgian. We will be so interested in keeping our skins that—But you are not going?



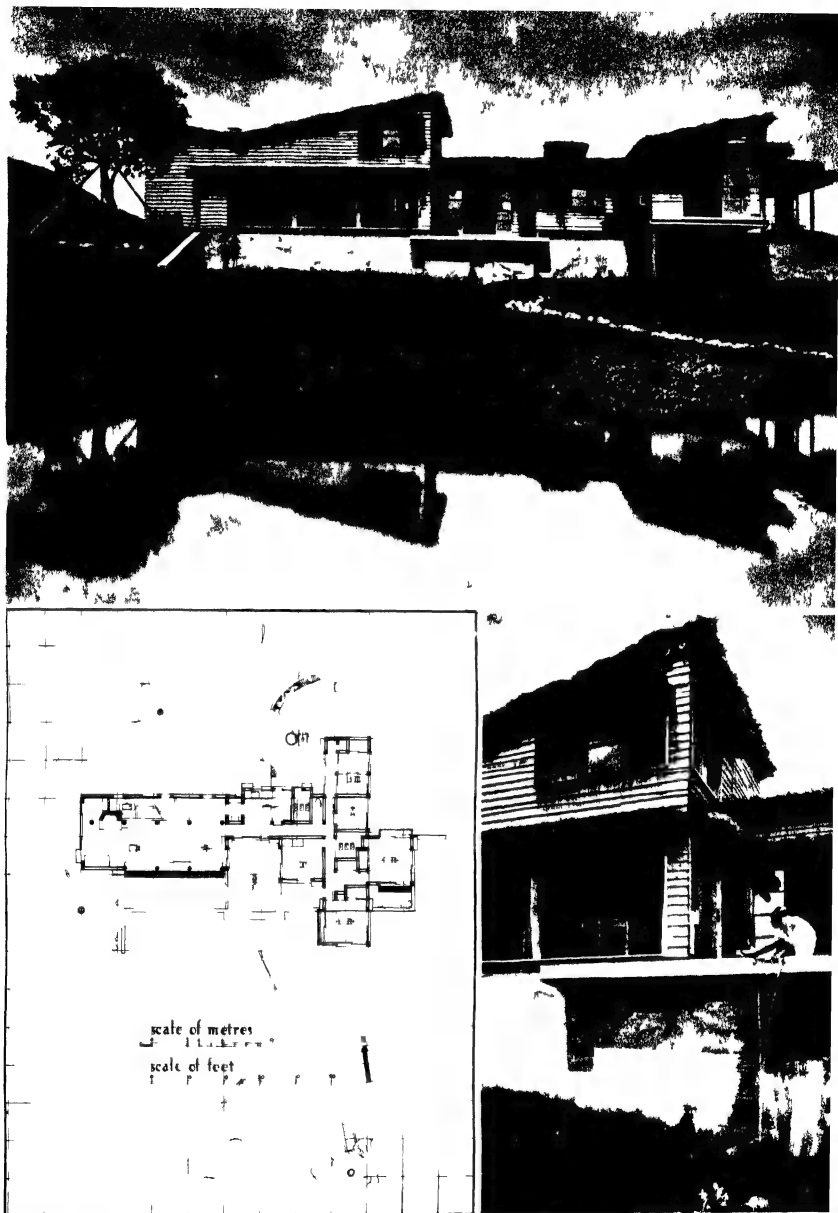
I am. Not because I take you seriously—if I took you seriously I would be getting in first before land-values at the North Pole went up—but because the discussion is getting into deep waters. I am still no wiser as to why your twentieth-century house has so little attraction about it. You say it is more in harmony with present-day needs than the older forms of building and you give a theory in support of this, but what does that come to? You twentieth-century architects are only a small group; the great public is still on the side of the old men like myself, and nothing you are able to do will have much effect on the great mass of men in the street.



You have my respect but my way is not yours. Love of the great things of the past is not enough. Forward is the only way for a man to go. In building as in thought, writing, music, science, there is only one road which will take us anywhere and that is the road between to-day and to-morrow and the great discoveries of the future. Though we may do things which seem strange to those whose eyes are turned back on fictions of the past we are at least making possible the coming of a form of building which will be more in harmony with the hopes of great architects of other days than a nation-wide museum would ever be. The future is in the hollow of our hands. In the wide windows of the twentieth-century house are framed the white towns of to-morrow and the clear-cut buildings of men as awake as ever the Greeks were to the fullest pleasures of living. What other road is there to take but into these surprising distances?

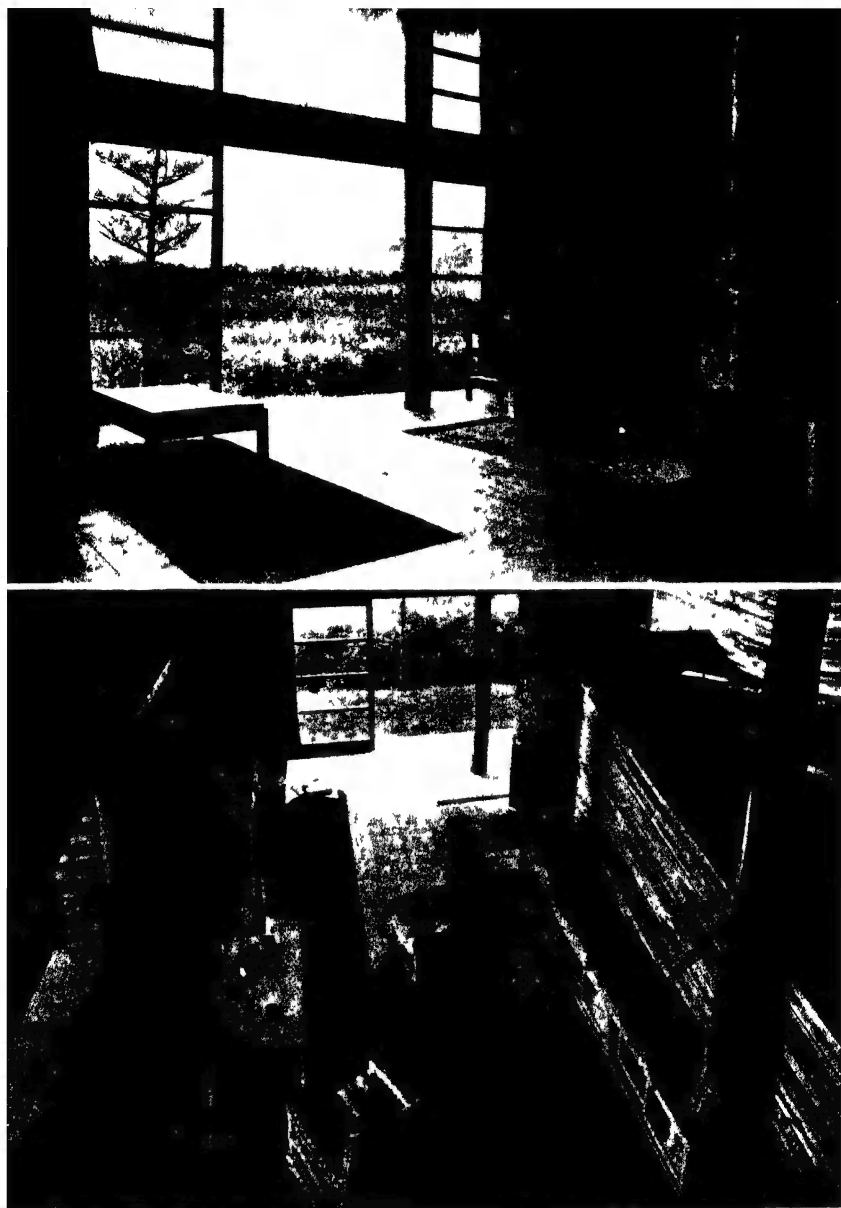


*One possible future for the private house,
a structure safe against air attack*



Example 117

*Antonin Raymond (Tokyo).
Summer House, Asama Mountain (1933).
Two views of the south front.*



Example 118

*Antonin Raymond (Tokyo).
 Summer House, Asama Mountain (1933).
 Two views of the living room looking in
 the direction of the burning mountain of*

IN THE LANGUAGES OF BABEL

FOR COMPARISON WITH THE BASIC PARALLELS

page 9, ¹. "But in dark corners of her palace stood
Uncertain shapes; and unawares
On white-eyed phantasms weeping tears of blood,
And horrible nightmares,
And hollow shades enclosing hearts of flame,
And, with dim fretted foreheads all,
On corpses three-months-old at noon she came,
That stood against the wall."

(*The Palace of Art*, Tennyson)

page 9, ². "The accursed Frankenstein monsters of, indirectly, my own making." (Ruskin, 1872.)

page 11, ¹. "I do not believe in the possibility of keeping art alive by the action, however energetic, of a few groups of specially gifted men and their small circle of admirers amidst a general public incapable of understanding and enjoying their work. All worthy art must be in the future, as in the past, the outcome of the aspirations of the people towards the beauty and true pleasure of life. This is the art which I look forward to, not as a vague dream, but as a certainty, founded on the general well-being of the people. It is true that the blossom of it I shall not see; yet we are even now seeing the seed of it beginning to germinate. No one can tell now what form that art will take; but it is certain that it will not depend on the whim of a few persons, but on the will of all." (William Morris.)

page 15, ¹. "The period of transition in France concludes with that reign of the Art Nouveau in decoration which left its mark on the later department stores. The Art Nouveau was crystallized in France by the work of Henry Van de Velde. In his own house at Uccle in Belgium in the early 90's he had sought to develop a suitable contemporary manner of furnishing. He was much influenced by Morris in his work and he achieved an even greater success with simple rational forms devoid of ornament." (*Modern Architecture; Romanticism and Reintegration*. Henry Russell Hitchcock. New York, 1929.)

page 19, ¹. "When you see a building like this I do not think you bother any more about its functional fitness than you bother about the

blood pressure and satisfactory metabolism of a beautiful woman (H. S. Goodhart-Rendel. A paper given before the R.I.B.A., November 1931.)

page 21, ¹. "A central spectacle, as a street like Regent Street should be worked out in the smallest detail. It should not grow like a weed, without forethought, meaning, or any agency but the drift and accident of commerce." (*Architects! Where is your Vortex?* Wyham Lewis, 1919.)

page 25, ¹. "There is a danger that one day in the not very distant future we shall be confronted with an obituary notice writ in large monstrous letters across the whole breadth of England 'Here lies Art of Civic Design. It was killed by the Science of Town Planning (*Good and Bad Manners in Architecture*. A. Trystan Edwards.)

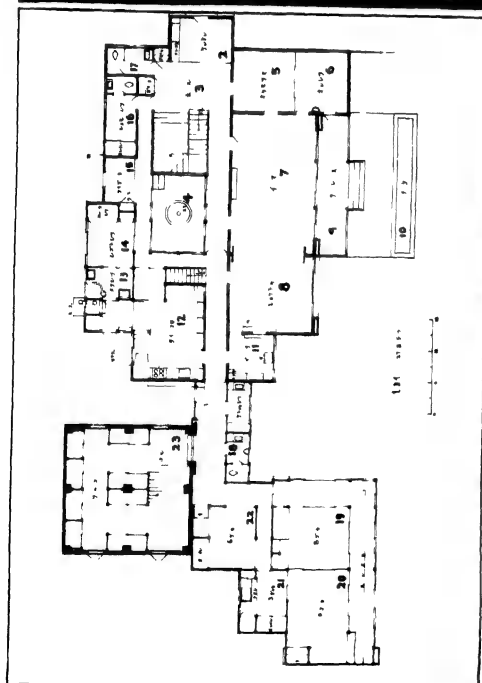
page 30, ¹. "...The Treasury, without any corresponding reserve gold or any security other than that of the real wealth to be brought into being by its use, create and pay out to an authority specially established for the purpose the money which is needed for building hundred new towns in Britain. The State has created new money. What does it get in return? Obviously it gets the buildings, which would be State-owned." (*An Appeal for a Hundred New Towns for Britain* (1934). Distribution from 41 Salisbury Square House, London, E.C.

page 35, ¹. "Proportio est ratae partis membrorum in omni opere totiusque commodulatio, ex qua ratio efficitur symmetriarum. Nam non potest aedis ulla sine symmetria atque proportionem rationem habere compositionis, nisi uti ad hominis bene figurati membrorum habere exactum rationem." (Vitruvius, *De Architectura*, Book III.)

page 53, ¹. "S'il reste des armoires bretonnes en Bretagne, c'est les Bretons sont demeurés en Bretagne, bien loin, bien stables, toujours occupés à la pêche et à leur élevage. Il n'est pas étonnant que les messieurs de la bonne société dorment, en leur hôtel de Paris, dans un lit breton, il n'est pas étonnant qu'un monsieur qui possède une limousine dorme dans un lit breton, etc. Il suffit de se rendre compte et de tirer les déductions logiques. Posséder une limousine et un lit breton, c'est, hélas, courir (*Vers une Architecture*. Le Corbusier, 1923.)

page 63, ¹. "Die Kindheit des Menschen durchläuft alle Wandlungen, die der Geschichte der Menschheit entsprechen. Mit zwei Jahren so wie ein Papua, mit vier Jahren wie ein Germane, mit sechs Jahren Sokrates, mit acht Jahren wie Voltaire. Wenn er acht Jahre alt kommt, ihm das Violett zum Bewusstsein, die Farbe, die das achtzehnte Jahrhundert entdeckt hat.

"Das Kind ist amoralisch. Der Papua ist es für uns auch. Der Papua schlachtet seine Feinde ab und verzehrt sie. Er ist kein Verbrecher. Wenn aber der moderne Mensch jemanden abschlachtet und verzehrt, so ist er ein Verbrecher oder ein degenerierter. Der Papua tätowt seine Haut, sein Boot, sein Ruden, kurz alles, was ihm erreichbar ist.



Example 119

*Kameki Tsuchiura (Tokyo).
House Yamamoto, Tokyo (1933)
Two views of the south side.*

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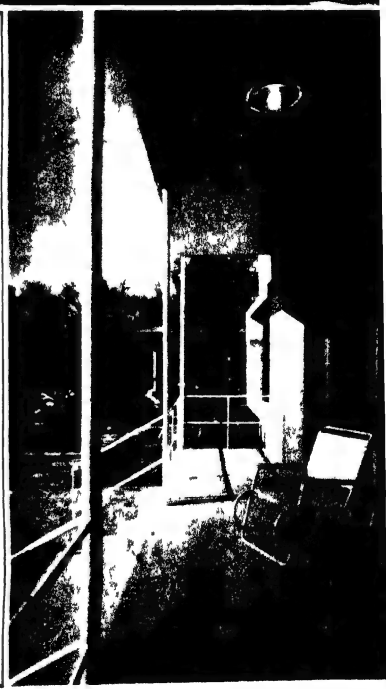
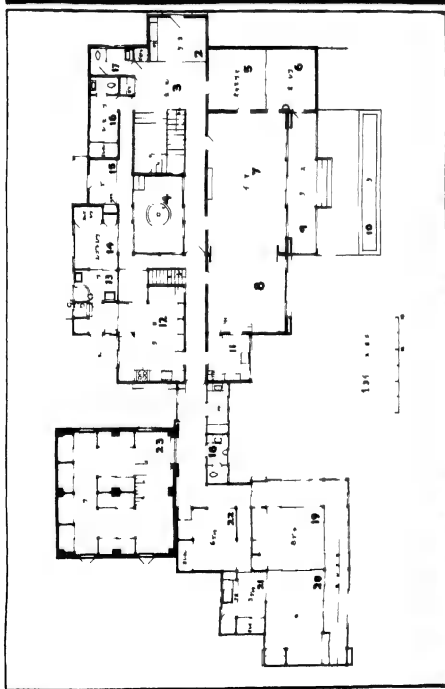
page 30, ¹. “...The Treasury, without any corresponding reserve of gold or any security other than that of the real wealth to be brought into being by its use, create and pay out to an authority specially established for the purpose the money which is needed for building a hundred new towns in Britain. The State has created new money. What does it get in return? Obviously it gets the buildings, which would be State-owned.” (*An Appeal for a Hundred New Towns for Britain* (1934). Distribution from 41 Salisbury Square House, London, E.C. 4.)

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“Das kind ist amoralisch. Der papua ist es für uns auch. Der papua schlachtet seine feinde ab und verzehrt sie. Er ist kein verbrecher. Wenn aber der moderne mensch jemanden abschlachtet und verzehrt, so ist er ein verbrecher oder ein degenerierter. Der papua tätowiert seine haut, sein boot, sein ruder, kurz alles was ihm erreichbar ist. Er



Example 119

Kameki Tsuchiura (Tokyo).
House Yamamoto, Tokyo (1933).
Two views of the south side.



ist kein verbrecher. Der moderne mensch, der sich tätowiert, ist ein verbrecher oder ein degenerierter. Es gibt gefängnisse, in denen achtzig prozent der häftlinge tätowierungen aufweisen. Die tätowierten, die nicht in haft sind, sind latente verbrecher oder degenerierte aristokraten. "Der drang, sein gesicht und alles, was einem erreichbar ist, zu ornamentieren, ist der uranfang der bildenden kunst. Alle kunst ist erotisch. "Man kann die kultur eines landes an dem grade messen, in dem die abortwände beschmiert sind. Beim kinde ist es eine natürliche er-scheinung: seine erste kunstäusserung ist das bekritzeln der wände mit erotischen symbolen. Was aber beim papua und beim kinde natürlich ist, ist beim modernen menschen eine degenerationserscheinung. Ich habe folgende erkenntnis gefunden und der welt geschenkt: evolution der kultur ist gleichbedeutend mit dem entfernen des ornamentes aus dem gebrauchsgegenstande. Ich glaubte damit neue freude in die welt zu bringen, sie hat es mir nicht gedankt." (*Ornament und Verbrechen* (1908), *Trotzdem* (1900-30). Adolf Loos.)

page 73, ¹. "Morris bade us 'forget the piston-stroke' and enter into an earthly paradise entirely remote from life. This was in the words of Keats

'A bower quiet for us, and a sleep
Full of sweet dreams, and health, and quiet breathing.'

But all that is over. However beautiful the things these men created they are as remote from us now as Rococo was from them." (*Where the Great City Stands*. C. R. Ashbee, 1917.)

page 74, ¹. "It is always ill for an artist to destroy a beautiful thing or what another has more greatly planned." (C. R. Ashbee.)

page 75, ¹. "The difference between us and the later Victorians is that for us Necessity is not in the Mechanical power, but in the Will that is to dominate it. For us Beauty is no longer mere enjoyment. Much less is it the enjoyment of a privileged class. We do not accept the hedonistic view. For us Beauty is a spiritual force pervading all things, a heritage into which every one is born, a state to which every one can attain, more or less, according to his power or his sympathy. On this conviction the new social order is being built up." (*Where the Great City Stands*. C. R. Ashbee, 1917.)

page 76, ¹. "This illustration of nature's productions, conceived by human intellect and fashioned by human skill." (H.R.H. Prince Albert, October 15th, 1851.)

page 77, ¹. "The sense of order conveyed by breadth of surfaces and reposeful arrangement does suggest qualities akin to faithfulness, frankness, simplicity and self-control... We do not naturally value simplicity in ourselves. To have travelled and seen much, to be versatile and cosmopolitan in our tastes and complex in our behaviour is, to most people, more attractive than simplicity of character and conduct which, to acquire in these days, needs strong will and independent thought." (*Individuality*. C. F. A. Voysey, 1915.)

page 84, ¹. "Let us avoid being extreme, even if it does pay in these vulgar days to be sensational; let us beware of too much machinery, and let us aim at quality rather than novelty, so that we may produce buildings that are not only efficient, practical and functional, but also refined and beautiful." (Sir Giles Gilbert Scott, November 6, 1933.)

page 88, ¹. "Partout on voit des machines qui servent à produire quelque chose et qui la produisent admirablement, avec pureté. La machine qui nous habite est un vieux coucou plein de tuberculose." (*Vers une Architecture*. Le Corbusier, 1923.)

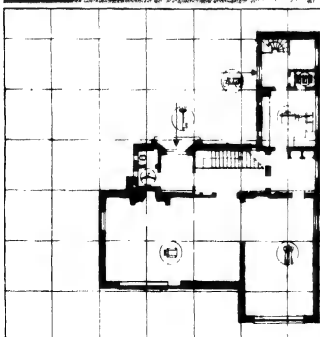
page 104, ¹. "It is said that a man whose eyes have been trained in the East will only rarely want to open them in the West. For my part I shall say that I have, in Europe, derived more visual inspiration and design-experience from the study of the works of modern painters and sculptors than from any works of architecture except one alone: The Parthenon. The reason for this must surely be clear; the work of artists such as those with whom I am associated in this friendly group, Unit One, is, reduced to its simplest elements, linear and spacial research work. They have helped me to know the difference in value between a merely surprising trick and a noble invention; to know what subtle combinations and resolutions of human impulses make up the values of an enclosed and habitable space; and to discover what are the ingredients of that particular quality of *residual repose* which buildings alone can possess. For the rest, an artist will learn by and from himself, what he needs." (*Unit One*. Taken from the account by Wells Coates.)

page 105, ¹. "One day, the ghostly, parasitic colour-screens of impossible obsolete moral and social principles, of 'ancestor-worship in design', will be dissolved. Until then, architecture cannot hope to achieve again its essential intention as an art. The common lag of people lack the opportunity and the creative capacity to make for themselves, as they did in less complex, less specialized, ages, the forms which serve life. The Tradition of Architecture is to seek the order that leads to freedom and fulness of life. Architecture has to serve the purposes of the people as well as the purposes of beauty." (*Unit One*. Taken from the account by Wells Coates.)

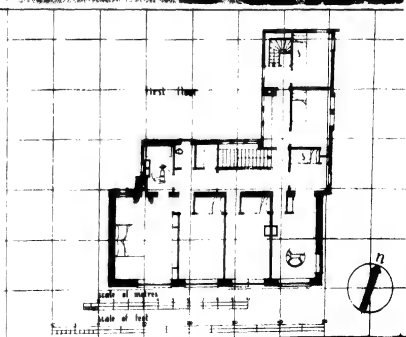
page 109, ¹. "Felt the need and the lack of a red-blooded explanation, of a valiant idea that should bring life to arouse this cemetery of orders and styles." (*Autobiography of an Idea*. Louis Sullivan.)

page 112, ¹. "A chair is a machine to sit in. A house is a machine to live in. The human body is a machine to be worked by will. A tree is a machine to bear fruit. A plant is a machine to bear flowers and seeds. And, as I've admitted before somewhere, a heart is a suction-pump. Does that idea thrill you? Trite as it is, it may be as well to think it over because the *least* any of these things may be is just that." (Kahn Lectures for 1930. Frank Lloyd Wright.)

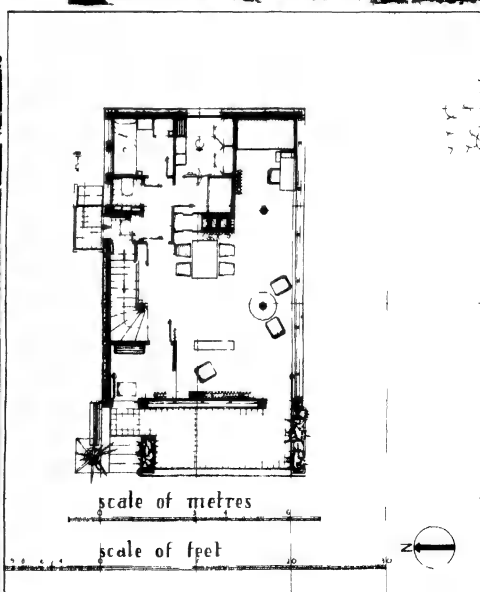
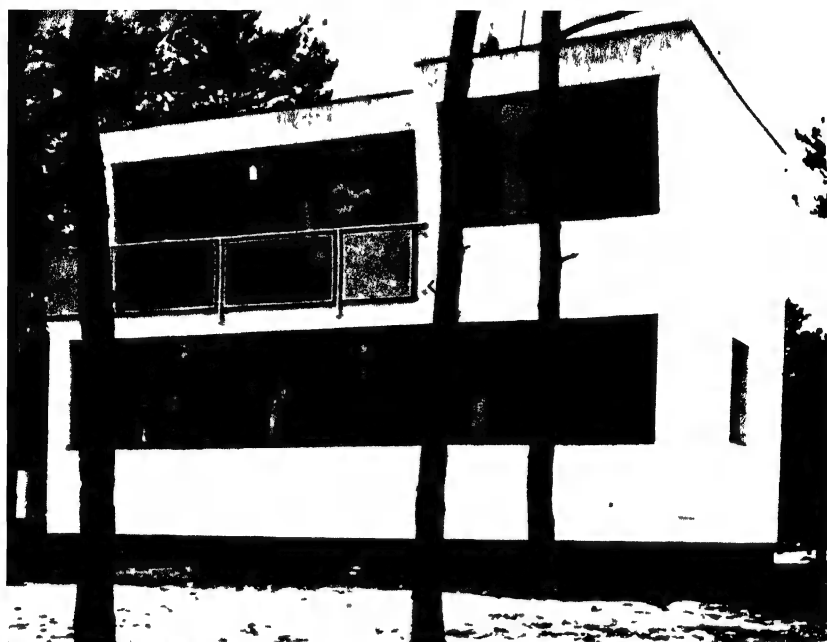
page 115, ¹. "Mr F. L. Main, U.S.A., said that since 1929 thousands of home owners had been dispossessed through mortgage disclosures, and



Example 121



*Fr. Konow Lund (Bergen).
House Uchermann, Bergen (1933).
The south front.*



ple 122

*Helena and Szymon Syrkus (Warsaw).
House Dr. N., Warsaw (1932).
South front and west front.*

many thousands more had seen the appraised value on their property holdings dwindle when the time came to re-finance. Experience had called forcibly to the public mind the high carrying charges and the pyramidal profits incident to the mediocre type of home construction practised by real estate promoters and speculative builders. In these circumstances the public hopefully recalled the large savings passed on to the consumer in the progressive manufacture of standardized motor-cars, radios, and refrigerators, and since the automobile was the highest priced and most efficiently produced standardized commodity on the market it was natural that the housing of the future which was wished for should follow the methods of manufacture and sale of the automobile." (*The Times*, June 22, 1934.)

page 116, ¹. "By revamping of rail locomotive designs, no airplane could ever have been evolved. . . . We have been labouring under the delusion that in housing, material stylistic deformities, and weight, signified character and individualism of its occupants. . . .

"The new housing will make all archaic forms obsolete by virtue of new low operating and maintenance cost to which the relative scale of economics ever adjusts itself, and must not only provide new housing for the 300 million additional souls to be accommodated on this earth in the next 80 years, but also rehouse, on a ten-year design obsolescence frequency, the other billion and three-quarters already here, or to be replaced. This indicates housing production requirement of approximately 20 billion shelters by two thousand A.D., approximately 280 million per year, which is 140 times Ford's auto production. Who says we are over-produced?" (Buckminster Fuller, *Universal Architecture* Essay No. 1. *Shelter*. May, 1932.)

page 123, ¹. "Da sagte ich: Weinet nicht. Seht, das macht ja die grösse unserer Zeit aus, dass sie nicht imstande ist, ein neues ornament her-vorzubringen. Wir haben das ornament überwunden, wir haben uns zur ornamentlosigkeit durchgerungen." (*Ornament und Verbrechen* (1908). Adolf Loos.)

page 128, ¹. "Was ist Architektur? Ein Kampf um die Erweiterung von Raum und Zeit, die uns eingeschränkt worden sind. Der Mensch im Urwald brauchte keine Architektur, denn er hatte genügend Zeit und Raum, sich ungehindert bewegen zu können. Wir, durch die Zivilisation eingesperrt, machen uns künstliche Wege und Plätze im Haus und dem kleinen Stück Erde, das wir Garten nennen um uns Abwechslung auf dem möglichst kleinen Raum zu verschaffen.

"Wie sieht das Wohnhaus unserer Zeit aus? Was wir das Wohnhaus unserer Zeit nennen, ist das Wohnhaus des begüterten Amerikaners. Tatsächlich wohnen aber die Menschen unserer Zeit noch in sämtlichen Zwischenstufen von Häusern seit der Steinzeit, also in Höhlen und Zelten." (Joseph Frank, *Baukunst*, 1927.)

page 142, ¹. "LE VOLUME. Nos yeux sont faits pour voir les formes sous la lumière. Les formes primaires sont les belles formes parce qu'elles se lisent clairement. Les architectes d'aujourd'hui ne réalisent

plus les formes simples. Opérant par le calcul, les ingénieurs usent des formes géométriques, satisfaisant nos yeux par la géométrie et notre esprit par la mathématique; leurs œuvres sont sur le chemin du grand art.

"LA SURFACE. Un volume est enveloppé par une surface, une surface qui est divisée suivant les directrices et les génératrices du volume, accusant l'individualité de ce volume. Les architectes ont, aujourd'hui, peur des constituantes géométriques, des surfaces. Les grands problèmes de la construction moderne seront réalisés sur la géométrie. Assujettis aux strictes obligations d'un programme impératif, les ingénieurs emploient les génératrices et les accusatrices des formes. Ils créent des faits plastiques limpides et impressionnants.

"LE PLAN. Le plan est le générateur. Sans plan, il y a désordre arbitraire. Le plan porte en lui l'essence de la sensation. Les grands problèmes de demain, dictés par des nécessités collectives, posent à nouveau la question du plan. La vie moderne demande, attend un plan nouveau, pour la maison et pour la ville." ("Trois Rappels à MM. les Architectes" from *Vers une Architecture*. Le Corbusier.)

page 143, ¹. "Les pierres sont inertes, dormantes dans les carrières, et les absides de Saint-Pierre font un drame." (*Vers une Architecture*. Le Corbusier.)

page 145, ¹. "Les uns sont muets; les autres parlent; et d'autres enfin, qui sont les plus rares, chantent." (Paul Valéry.)

page 145, ². "Une maison est une machine à habiter. Bains, soleil, eau chaude, eau froide, température à volonté, conservation des mets, hygiène, beauté par proportion. Un fauteuil est une machine à s'asseoir, etc." (*Vers une Architecture*. Le Corbusier (Les yeux qui ne voient pas).)

page 146, ¹. "Ce serait une grave erreur de penser que l'on peut baser une architecture sur la pauvreté, sur une économie pécuniaire exagérée de l'œuvre. Les siècles passés sont là, pour nous faire constater qu'au contraire, toute vraie architecture ne trouve son libre développement que dans une ère de prospérité économique... pourtant une vraie et éternelle loi d'économie doit présider à toute œuvre, pour qu'elle soit durable et de qualité; car une œuvre conçue simplement, et avec des moyens simples, a grande chance d'être belle." (*Architecture*. André Lurçat, 1929.)

page 150, ¹. "Die art, in der gestaltende mensch die beziehungen der massen, materialien und farben des zu gestaltenden dinges ordnet, schafft diesem das charakteristische gesicht. In den massverhältnissen dieser ordnung liegt sein geistiger wert verborgen, nicht in äusserlicher zutat von schmückendem ornament und profil." (Walter Gropius, *Bauhausbücher*, Bd. 7, 1924.)

page 163, ¹. "At first sight the *Landhaus* at Cronberg may seem another pea from the selfsame pod as the innumerable 'functional' villas which are now being built all over the world. A second glance discloses a

world of difference. This is certainly the sort of thing—in that it embodies the same, very limited, architectural elements—which all Modernist architects are *trying* to design. It is also just what they have never succeeded in doing. Here, the newest building of the oldest and greatest living Modernist, the father of all the others—a man nearer seventy than sixty—the ‘modern’ house is at last completely expressed, completely realized.” (P. Morton Shand in the *Architectural Review*, October, 1932.)

page 166,¹. “. . . Architects have forgotten that the small private house represents only a very small architectural unit, and that in view of this the use of architectural details (extravagantly extensive ground plan, unnecessarily irregular roof-line, riotous geometrical patterns) must be rigorously limited. Again, constructional means which are proper to great halls and public buildings are out of scale in small buildings. *A private house is not an exhibition of architectural and technical devices.* The too lavish use of glass can degenerate into a mere craze. Glass when employed irrespective of position or refinement is no better than a pillar which supports nothing. At the same time it may banish the intimacy of private life. A private house is not a *place publique*.” (Erich Mendelsohn in the *Architects’ Journal* for July 12, 1934.)

A NOTE ON BASIC ENGLISH

By C. K. OGDEN

Those who are conscious of the special part played by language as the frame of our experience will not be surprised by the discovery that developments in language have their parallel in other directions. And though, on the face of it, there may seem to be little connection between language and building, these widely different fields have certain points in common which make such a parallel probable.

In building with words there is the same pull between the science of structure and the art of ornament as there is in building with steel and stone and wood; and there is, in an even more marked degree, the same two-sided purpose which came under discussion in Part III of this book. Language designed for use, in the narrow sense, has been named "referential", while the other sort of language, which has chiefly a feeling-value, is named "emotive". But unhappily writers are less conscious of this division than architects now seem to be, and the theory that if attention is given to the uses of a building its other qualities will take care of themselves is an over-simple one to be much help in getting straight our ideas about language. Naturally, any parallel will let one down if pushed to foolish limits. This one has been pointed to because it is part of the answer to a question which the reader has probably had on his lips for some time: *Why is this book in Basic?* Mr McGrath is an architect with a language-sense. In using Basic for his book, he has had in mind something more than the fact, important enough in itself, that this step would give him an international public. He saw in Basic a language with the same qualities as the buildings he was writing about, and which had, for this reason, a special value for his purpose.

Much has been said in this book about international forms in building, about the straightforward use of materials, clear statement, and reasoned design. All these qualities might equally well have been named in connection with Basic English. In fact, it is possible to give a clear account of Basic under these very heads.

1. *International forms*

Basic (British, American, Scientific, International, Commercial) English has been designed for international use on an Earth which is talking more than 1500 languages into telephones, over the Radio, and on to phonograph records. Like the buildings for which Mr McGrath has most respect, it is an attempt to come into line with the changed conditions for which the engineer is responsible. The language has only 850¹ words, in addition to about 50 international words and the names of the numbers (which are needed for talking purposes only). These words are clearly printed on the list facing p. 232—that is to say, on a space not much bigger than a bit of business note-paper—and they may be said over in 15 minutes on a small folding phonograph record. Most of them have simple parallels in other languages, and all of them are the names of things and ideas which are current everywhere. The Highlander's *kilt* and the Zulu's *knobkerrie* are no more a part of Basic than the Greek "pediment" is a part of Mr Buckminster Fuller's international house.

The structure of the system is as international in design as the words themselves. In place of the complex Indo-European "verb" which in some countries in the East has kept boys and girls at school for two or three years longer than might be necessary, Basic makes full use of the English tendency to put the name of a

¹ It may be noted that those who have not given much thought to language are frequently in error as to the number of words used for the purposes of normal education. Even the Kindergarten babies have between 2000 and 3000 separate word-forms, and Thorndike has given us a list of the 20,000 most frequently used in books produced for the young. If this book had not been in Basic, the writer would have made his selection from at least 25,000. So statements in the papers, saying that we may get on happily with 500, are based on the chance ideas of some office-boy.

simple operation with a direction word. To *remove* becomes in this way to “take off” or “away”, to *dismount* is to “get off a horse” and so on.

2. Simple use of material

The rules for using the words are very simple, and generally commonsense is a safe guide. Some examples will make this clear. Special uses of the words, which have little connection with their separate sense, are cut down to the smallest possible number. The rules for word-order are based on the simple example “I will give simple rules to the boy slowly”, which is the order in which all physical operations take place. This key structure is made clear to the learner on a Word Wheel, in which the different parts of the statement are placed on circles of increasing size turning about a middle point. By moving the circles, new statements are made, and the learner is able to see why some make sense while others are foolish. The form of the words themselves is straightforward. But for one or two regular endings like the addition of *ly* to “adjectives” or quality words and the addition of *-er*, *-ing*, and *-ed* to half the names of things, more than 750 of the words have no change of form. From *friend* there is no flowering into *friendship* and *friendliness*; *effect* may not be twisted into *effective*, *effectiveness*, *effectual*. The words are all what they seem to be.

3. Clear Statement

The fact that all unnecessary material has been blue-pencilled makes Basic a highly “referential” language. That is to say, the statement-value of the 850 words is much greater than their feeling-value. The “emotive” or feeling words are the words which give power to verse, but, when they are used, the point of view of the person talking and the feelings of his hearers get mixed up with the facts about which a statement is being made. By keeping out these words as far as possible Basic has a clear-cut quality which is equalled by no other language.

The power of clear statement is increased by the fact that the makers of Basic have taken into account the great work of Jeremy

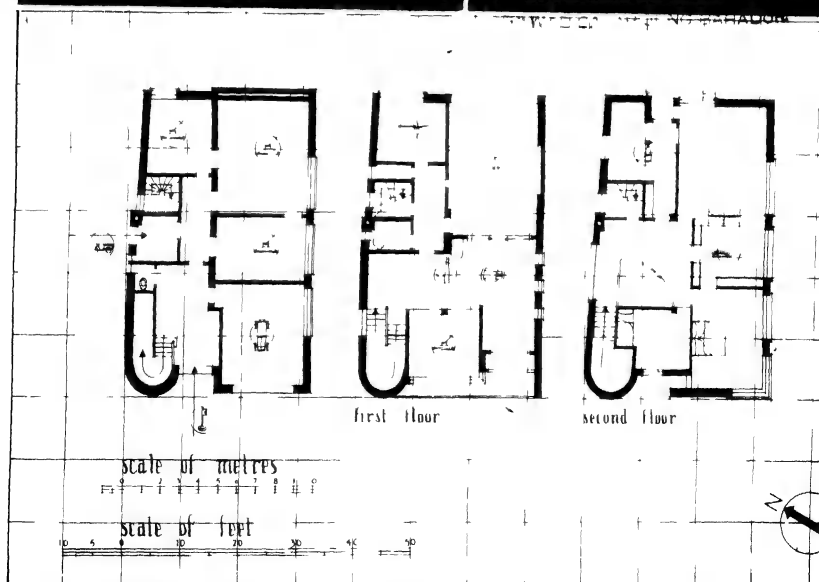
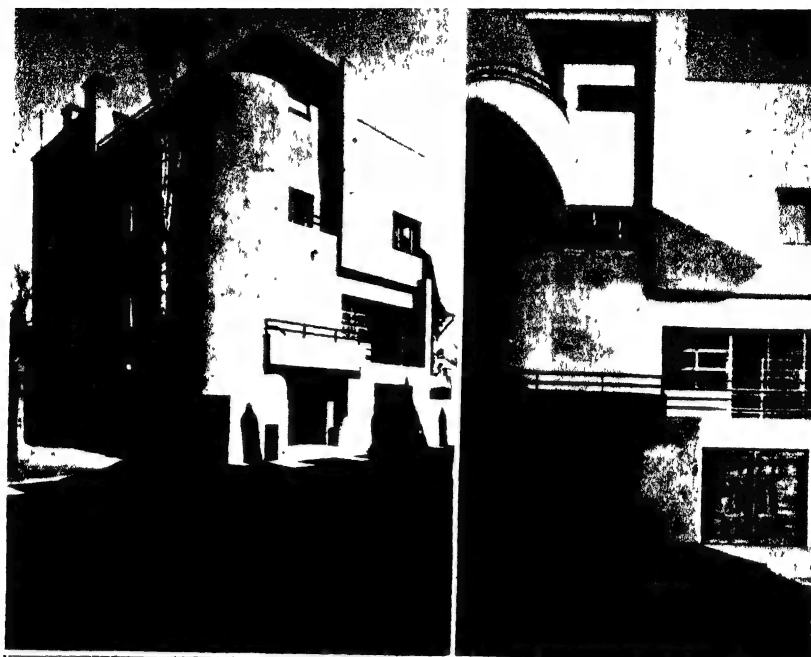
Bentham on *The Theory of Fictions*. Though fictions have a place—and an important place—in Basic, the roots of the system are in the simple pointing words. Even at the highest levels of science it is possible, and frequently necessary, to go back to these words, which are the natural instruments of the young. They are the words in which there is least danger of clouded sense because they are based on the first physical behaviour-reactions before the birth of those complex fictions which give us so much power and knowledge of a different sort. An interesting test of the value of Basic for making clear statements is made in Dr Richards' *Basic Rules of Reason*.

4. Reasoned Design

As the plan is the all-important thing about a house (see the statement from Corbusier on p. 142), so it is the plan—the worked-out design—which has made Basic. First, as in the designing of a house, it was necessary for the makers of Basic to have a clear idea about the complex purpose for which the system was needed. Then, before it was possible for the work itself to be done, blue-prints had to be got ready by the language-engineers. The probable size of the word-list, the relation of one sort of word to another, the system of selection, the part to be played by operation and direction words—all this was fixed before the builders of the system got to work on the lists. The natural growth of an international language is as little to be supported as the natural, uncontrolled growth of a town.

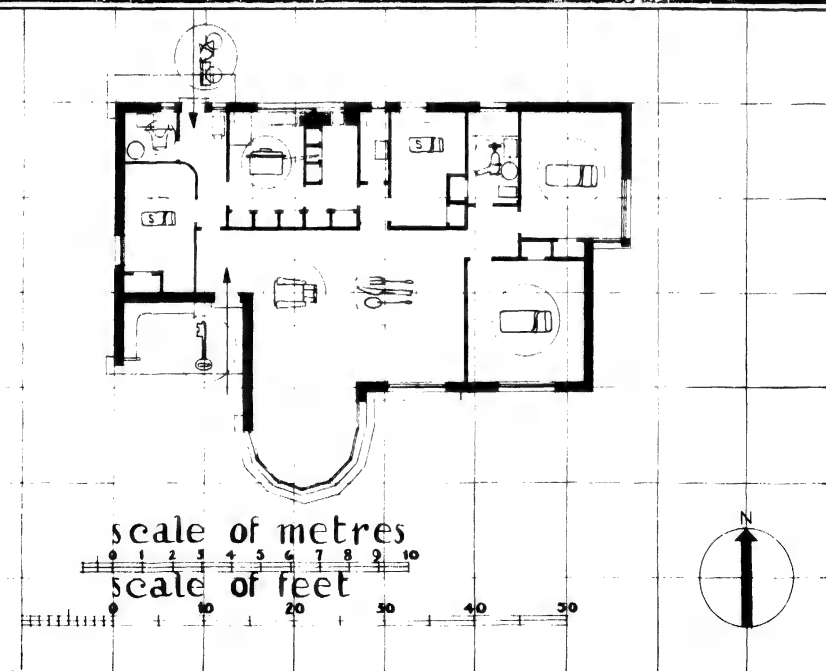
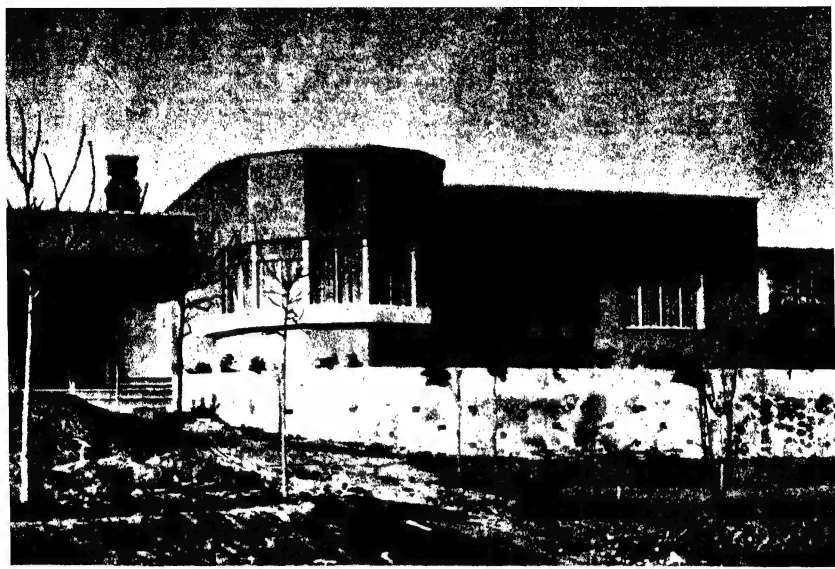
Such, then, are the dry bones of Basic.¹ They have been clothed with expert hands by Mr McGrath in the rest of this book; and by a happy chance he has made use at the same time of that other international language—the language of pictures. The picture-guide to the details of the plans forming the second part of the book is a sign-system to which any one with eyes will have the key. This very interesting branch of the science of clear statement has been worked out most fully by Dr Neurath of the Mundaneum

¹ For a full account of the system, see *Basic English* and *The ABC of Basic English*.



Example 123

*Marcel and Iuliu Iancu (Bukarest).
House Zelinger, Bukarest (1927).
of the street front.*



Institute at The Hague. Those for whom the suggestions of Mr McGrath's international sign-pictures are clear will see the value of the system of teaching Basic by pictures on which Dr Neurath is now working.

There is one important point about Basic which has not so far been touched on. In addition to its more everyday uses it is designed to be the framework of international science. This framework is made complete by the addition of 100 General Science Words and 50 words for any special field, making a round 1000. At a higher level, different in every branch of science, international words are ready to hand. For the special lists we are dependent on committees of experts, and unhappily the Building List is still in its early stages. For this reason, Mr McGrath has made use of about 10 General Science Words and a small number of special building words which are listed here. All of them are possibles for the Building List, but their use in this book does not give them a fixed place in the Basic System:

architect	chair	mould
balcony	concrete	plaster
beam	furniture	slate
ceiling	hall	terrace
	mosaic	

In addition there is one word, *century*, which has no business in this respected company. It is present only because it got into advertisements as part of the name of the book before any decision had been made about the use of Basic. To a reader who has got some pleasure from the book it may seem like the fly in its yellow prison which makes the jewel more beautiful.

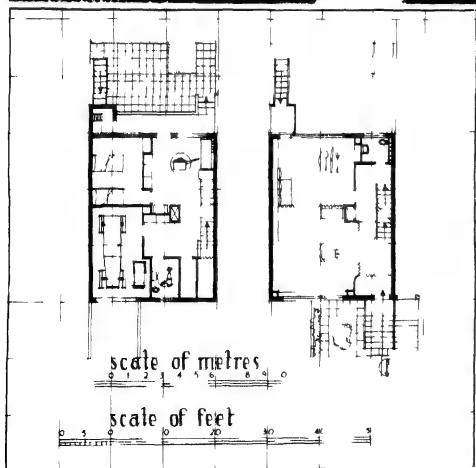
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Garden front and bedroom.*

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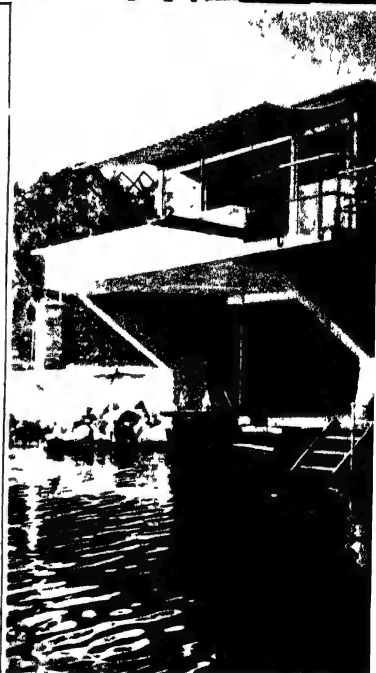
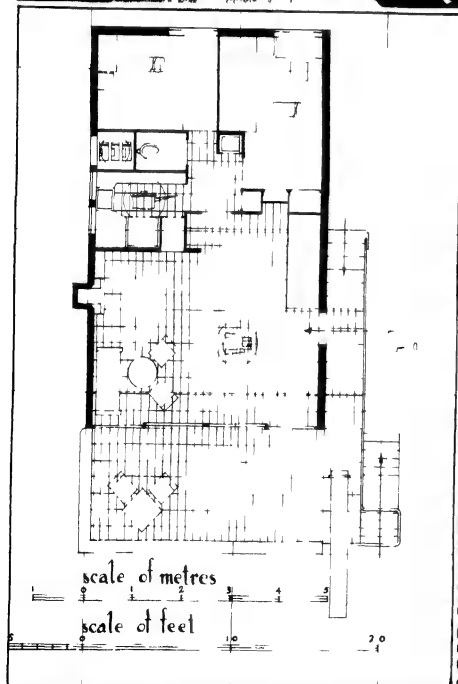
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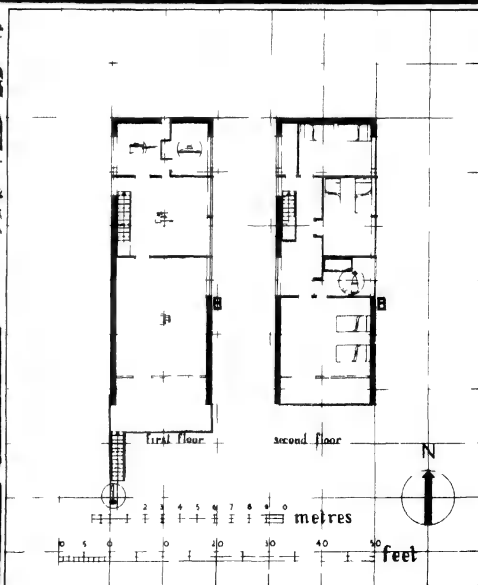
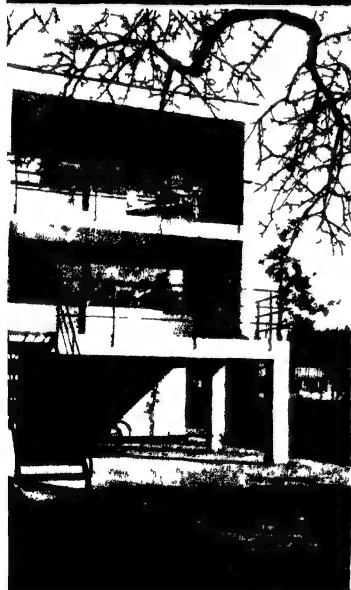
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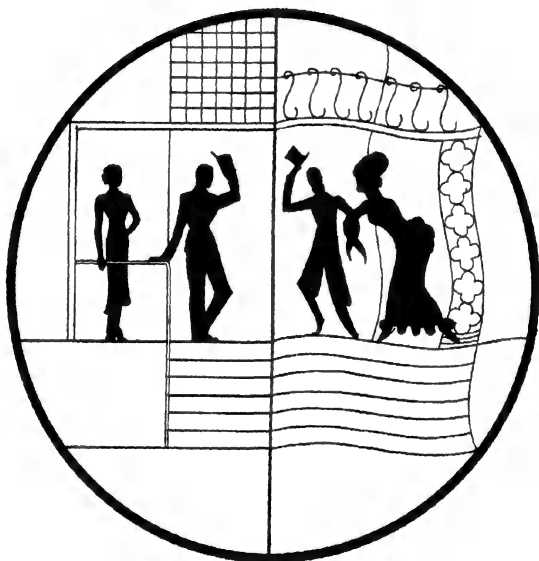
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QUALITIES

**GENERAL
SCIENCE**
100

100 General! 50 Opposites

200 Picturable

400 General

100

